Aviation Strategy

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Boeing recovers - but are its problems over yet?

The ninefold increase in its first quarter 1999 results is one sign that Boeing is not taking its reverses of the past two years lying down.

Analysts are now beginning to think that the current year's earnings might end up at the top end of the $1.5bn-$2bn bracket, despite warnings by the company last December that they would fall as much as 25% short of the earlier $2bn forecast. The latest view from the company reporting its first quarter results in mid-April was that this year's net earnings should still fall in the $1.6bn-$1.8bn range. The first quarter of this year saw deliveries rise to 148 from 108 in 1Q 1998 (also see pages 8-9). This helped operating margins rise from 0.3% to 3.9% and produced net earnings of $469m, compared with $50m a year earlier. Sales of commercial aircraft rose from $8.1bn to $9.8bn in the quarter.

Boeing is now undertaking an aggressive management rethink, starting with improving the financial data about every product and project and testing their actual and potential returns to see if they should be fixed, sold or closed down. A feisty new CFO, Deborah Hopkins, has been hired to go around preaching the message of bottom-line responsibility to Boeing managers, who had been more concerned with programmes than profits.

Already the commercial helicopter business has been sold; the company has decided to move into aircraft servicing; the MD-11 is being phased out and the MD-95 - now known as the 717 - is being scrutinised to see if it has any real chance of making a profit long-term.

Below this corporate level shake-up, responsibilities have been more clearly defined inside the troubled Boeing Commercial Airplane Group. New boss Alan Mulally has formed his division into three departments - widebody, narrowbody and spares and service - each run by a manager responsible not for the number of aircraft he or she sells or produces but for making a profit. The target is to get operating margins on civil jets up from below 1% last year to 8% within a few years.

Wall Street has responded to Boeing's changes and to the first quarter earnings by marking up its shares from just over $30 earlier in the year to $40 a share, but they are still well off the $60 peak of July 1997, when it acquired McDonnell Douglas. In January chairman Phil Condit bluntly warned 280 managers at a special retreat that Boeing was vulnerable to a takeover since its market capitalisation was less than its net asset value. If the share price can keep climbing through $50, that threat is totally empty. Anyway, just about the only company with the muscle and the motive to move in on Boeing is General Electric, and it has denied any such intentions. Even so, investors who put $100 into Boeing shares in 1993 would be sitting on only $163 today, compared with $221 if they had bought into the whole aerospace sector and $294 if they had tracked the S&P index. *(Continued on page 2)*

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The real point of Mr Condit's remarks to his top managers was to highlight the need to fix Boeing quickly, before someone else came in and did it for them. Certainly, the recent history of Boeing is likely to spawn business school case studies for three reasons:

• How does a dominant company in a high-ticket market hold on to its position against a government-sponsored rival?

• How does a supplier to a regulated, uncompetitive industry adapt to that market's liberalisation?

• How was it that Boeing ran up such unprecedented losses at the peak of the biggest boom in civil aircraft?

The answer is that Boeing got caught in a tangle of all these forces, and lacked the management rigour to see what its problem was and then wrest itself free. Since October 1997 Boeing has been apparently hit by one problem after another. In fact, these problems had been around for some time, but only surfaced when the company had to admit to problems doubling production to meet a boom in orders.

Ever since he took over as chief executive of Boeing three years ago, Condit had understood that life was going to become more difficult. The establishment he inherited had historically manufactured three out of every four aircraft in the skies and was still delivering two out of three, despite the incursions of Airbus Industrie that was challenging Boeing by landing nearly half the orders, from a civil jet market that was reviving faster than either manufacturer thought possible.

But there was a more fundamental shift in the market going on, masked by the arrival of Airbus. Airlines competing in deregulated markets increasingly demanded their versions of each Boeing be tweaked to suit their needs. Boeing obliged, leading to an infinite variety of expensive design modifications.

At the same time, Boeing had recently decided to challenge Airbus's emergence in the narrowbody market by re-vamping its 737 range, rather than launch a wholly new aircraft. All this was going on while the world's airlines were facing increasing competition and commercial pressures as more and more governments sought to push state-owned flag-carriers into the private sector. This meant that the price of aircraft became sensitive, especially when there were two rival suppliers for all but 747s. Since 1989 the price of a 100-120-seater jet has not risen at all, and discounts of up to 50% are common on many bigger models.

Into this market maelstrom came Ron Woodard, head of Boeing Commercial Airplane Group, a super-salesman rather than a systematic manager. He was determined to hold off Airbus by offering discounts of up to 50% to stem Airbus's incursion into the market. The European group fought back with its own discounts; it kept on winning market share and Boeing's strategy soon failed.

What made it an even more dramatic failure was that Boeing had assumed that it could hack 25% out of production costs from a programme started in 1993 to improve the way it designed and manufactured civil aircraft. Basically, because it has a newer production system and a modular assembly technique that flows from its partnership structure, Airbus landed on its feet with a leaner manufacturing set-up. Last year Boeing had 216 workers for every jet it made, while the Airbus system (i.e. including partners' sub-contract factories) had only 143. Boeing also had 450 computer systems that barely talked to each other.

As it ramped up production in 1997, the number of aircraft with unfinished jobs on them grew so large the lines had to be stopped to catch up. By the time Boeing emerged from all this and from costs associated with its acquisition of McDonnell Douglas, it had had to make provisions of more than $4bn and reported its first loss. Woodard was fired last October.

Data salvation

Boeing Commercial Airplane Group's failure was not just one of marketing strategy in narrowbodies, but incoherence on the shopfloor. Boeing bosses from Condit down knew they had to become more efficient and scores of managers were sent to Japan to learn about lean manufacturing from Toyota

Motor Corporation which more or less invented it.

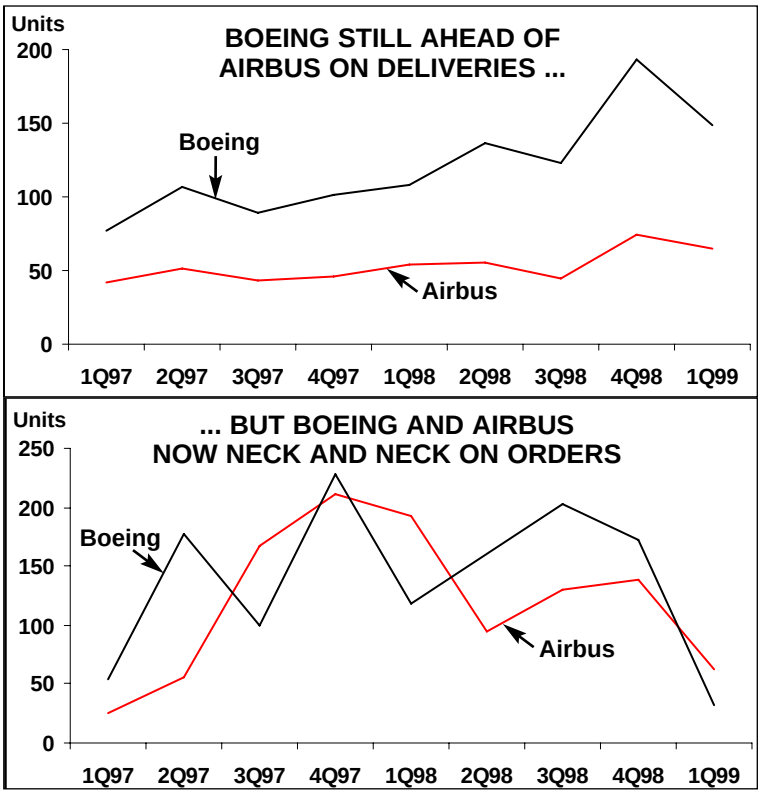
But all this learning and benchmarking fell foul of the collision between the rise in production volumes, the low pricing strategy and the lack of information on what it costs to make an aircraft. Again, Boeing's top bosses knew they needed a new way to design and manufacture aircraft: they even had an acronym for the magic system that would deliver them from all their evils: it is called DCAC-MRM. Now, after a delay caused by the production chaos, the system is coming in. The DCAC stands for Define and Control Airplane Configuration.

This means that Boeing is trying to keep the number of changes for individual customers down to a minimum, hoping also that the emergence of alliances will lead to some standardisation. DCAC will result in four computer systems working together, replacing a mish-mash of 450 old systems. The hope is that information will be clearer, and engineers and managers will have a better view of the financial impact of any changes.

The other half of the DCAC-MRM acronym stands for Manufacturing Resource Management. This is a fancy version of the sort of "enterprise computing" systems that are sweeping through most global industries, such as motor manufacturing. The basic idea is that all separate information flows in the company can be related to each other, so that inter-connections between, for instance, order intake, delivery rates, stock levels, assembly-line productivity, cash flows and so on can all be tracked.

Woodard famously said at the last Paris Air Show two years ago that this system would "bury Airbus". In fact, its botched introduction nearly buried Boeing instead. When things got to their worst in late 1997, Boeing sensibly suspended the system's implementation while it concentrated on more immediate tasks. Armed with better information systems, Boeing is hoping that, in addition to lower working capital and better shopfloor productivity, it may be able to shorten the development time for new products and derivatives of existing planes.

Another objective is to modernise its relationships with suppliers. Part of the previous problem was that suppliers were reluctant to suddenly increase production when Boeing wanted to raise its output, because they had seen Boeing cut off their orders overnight in the downturn of the early 1990s. Now Boeing is anxious to increase the amount of work that it outsources in a way which might provide more stable, long-term contracts for suppliers, while still insulating the company from the worst ups and downs of the demand cycle.



Managing the downturn

This year Boeing will seek to deliver 620 civil aircraft, about 70 more than last year. This will bring revenues (counting military sales as well) of around $58bn. But for the year 2000, the outlook is for civil deliveries of only 480, reflecting partly the slowing down of the market, and partly the advances Airbus has made in recent years towards grabbing half of all sales. But as total aircraft deliveries subside from the 940 registered last year to around 600-700, Boeing is going to have to shrink its manufacturing capacity dramatically.

Already more than 50,000 jobs will have gone by the end of this year as extra labour hired to cope with the ramp-up of production is laid off. Many of the 50,000 are white-collar jobs being eliminated partly by the increasing computerisation but also because Boeing sees the need to become leaner and less bureaucratic.

Boeing's difficulty is not only that it has to sort out its internal difficulties just as the aircraft order cycle begins its downturn, but that it also has to do so at a time when its whole product strategy is under stress. Boeing's strategy has been to preserve its monopoly at the top end of the market, keeping the 747 going for as long as it could. At the lower end, similarly, it has sought to milk the 737 single-aisle "cash cow" for as long as it could in the face of real competition from the more modern Airbus A320 family, which starts with the advantage of a wider fuselage, electronic controls and a more modern design.

With hindsight the decision to replace the 737 with a major derivative rather than an all-new aircraft might be seen as a mistake, leaving Boeing perhaps with a need to develop a radical new single-aisle aircraft before very long, if it wants to draw ahead of Airbus in this segment.

But Boeing also faces problems at the top end of its range, as the old 747 comes close to the end of its working life. The 777 has still to win launch orders for its long-range stretched versions, the 777-200X and the larger 300X, although John Roundhill, head of product strategy and development, hopes to win launch orders next year for delivery in 2003 - about the same time the stretches of Airbus's A340 (already ordered) come off the production line.

Boeing now thinks it has found a convincing way of prolonging the life of the 747, with a new wing and electronic fly-by-wire technology. This aircraft would aim to scupper the Airbus plans to launch an A3XX, a 550-seater that would attack Boeing's 30-year-old monopoly in aircraft carrying more than 400 passengers. But an earlier version of a 747 stretch project failed to impress airlines because it did not offer a big enough step forward in operational economics. Boeing is convinced the latest one passes that test. More ambitiously, Boeing has an alternative draft plan for an ultra-wide, single deck aircraft capable of carrying 450-550 passengers, which has been designed to have lower operating costs than the Airbus A3XX. Passengers would sit 12-abreast, and the aircraft would have sleeper berths above and below the main cabin deck. To minimise development costs, it would use parts from the 747 and the 777.

The real problem at Boeing is that it is having to put all these things right at once. It got into trouble because a series of internal weaknesses and bad decisions coincided with a boom in the market that put its system under stress. Now it is having to repair these shortcomings and generate better margins to convince investors it can develop new products - just as the market is turning down.

Philippine Airlines: the struggle continues

The fate of Philippine Airlines - in receivership since June 1998 with debts of around $2.2bn - is still unresolved. Since the last time *Aviation Strategy* covered the troubled airline (October 1998) much has changed - although from the creditors' point of view, PAL appears to have gone full circle in that chairman and majority-owner Lucio Tan returned in an executive role as CEO last month (April).

That's not a popular choice with creditors, many of whom blame Tan for the airline's collapse last year. Creditor unease about Tan's role could scupper PAL's latest turnaround plan, which was filed with the Philippines' Securities and Exchange Commission (SEC) on March 15. (The entire plan, including complete listings of creditors and detailed financial projections can be downloaded via the Internet on www.

philippineair.com/html/rehab.html - it makes an interesting read!)

This plan was approved by creditors in late-March, providing new equity was made available (as promised in the plan) and that the then management team - which didn't include Tan - remained unchanged. Tan says his return will be accompanied by a much-needed injection of $200m in capital (increasing his stake from 70% to 90%), but this does not appear to satisfy the creditors, who between them "own" 19 of the 22 aircraft that are essential to PAL's turnaround plan.

In particular the creditors are concerned that Tan may terminate the contracts of Regent Star Services - a consultancy consisting of five ex-Cathay executives that has assisted PAL in drawing up its current turnaround plan.

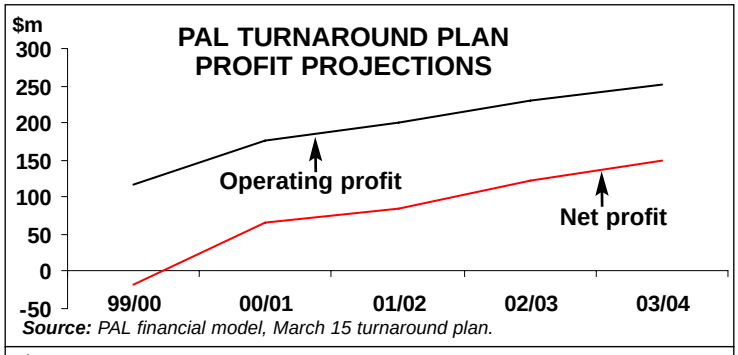
The plan is one that the creditors believe has a chance of success, leading to a forecast improvement in financial results as shown in the charts, right. By 2003/04 PAL is forecast to pull in revenue of more than $900m and a net profit of $151m.

The projected turnaround, which includes the sale of non-core assets, would allow for gradual repayment of the $2.2bn owed to creditors (which include the US Export-Import Bank, various European export credit agencies, Credit Agricole Indosuez, the Japanese trading house Marubeni and several Philippine banks). No matter how much cash Tan brings to the table at PAL, the continuing support of these creditors is vital. (They had already rejected an earlier turnaround plan filed in December 1998.)

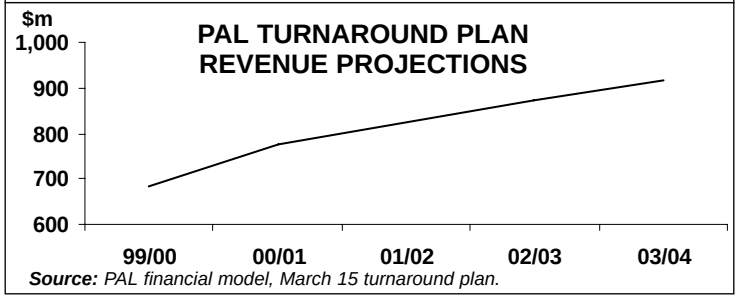
PAL TURNAROUND FLEET PLAN

	Fleet at June 98	Fleet at March 99	Planned fleet
737-300	8	8	7*
747-200	3	0	0
747-400	4	4	4
A300B4	8	0	0
A320-200	3	3	3
A330-300	8	8	8
A340-200	4	0	0
A340-300	4	4	0
F-50	10	3	0
Shorts 360	2	0	0
TOTAL	**54**	**30**	**22**

Source: *PAL turnaround plan, March 15.* ***Note:*** **Although one 737-300 is to be disposed of, two 737-300s (or possibly A320-200s) will be leased short-term for 2000-2001.*



Source: *PAL financial model, March 15 turnaround plan.*



Source: *PAL financial model, March 15 turnaround plan.*

A credible plan?

Ignoring for the moment the rows between Tan and the creditors, does PAL's current turnaround plan make sense? The plan, as shown on the Internet site, is very specific (and ambitious?) in its revenue and profit projections.

Essentially, PAL's strategy is based on:

• Deep cost-cutting, ranging from a smaller fleet and route network to reduced staffing and the sale of all non-core assets, and

• A refocussing on core customer segments/markets - i.e. domestic jet routes (turboprop services will not be offered) and key international business routes (Japan, China, Singapore, Taipei, the Middle East and the US).

The revamped PAL would use a 22-strong fleet to serve 12 international and 17 domestic routes and would be based at a new second terminal at the Ninoy Aquino International Airport in Manila. Codesharing would be a key part of PAL's strategy - on April 7 PAL applied for a one-year renewal of an unused authority to codeshare with American Airlines on routes between Manila and Chicago, Dallas/Fort Worth, Miami and Washington DC.

Airline valuations and the mysteries of cyberspace

The Internet is revolutionising business, and the share prices of many new technology companies are soaring. So how does the airline business cash in?

Currently the bull stockmarket in the US is being driven by new technology IPOs. The valuations being placed on these internet companies are frankly baffling: many of them have little or no cashflow but are attracting investors on the promise of futuristic concepts and wonderful product developments (and quick returns on punts). At the same time, airlines are moving more and more into electronic distribution and are trying to promote use of the Internet for ticket sales (see *Aviation Strategy,* March and April 1999).

These two trends come together in a company called Priceline.com, which IPOed at the end of March and whose share price has doubled since then to a price which means that it is now theoretically worth $14bn-$15bn. Its price/revenue ratio puts it in the same league as Internet giants such as Amazon.com.

Priceline.com is essentially a proprietary trading system for airline tickets and hotel rooms (and which is now expanding into cars, mortgages and others). Customers can buy tickets by posting bids, dates and conditions on the company's web site. Priceline.com then attempts to purchase tickets from 18 US and international airlines, aiming to obtain the best possible discounts. Only 35% of "reasonable" bids (defined as no more than 30% below the normal APEX fare) are matched at the first attempt but on popular routes Priceline.com claims to find tickets for more than 70% of reasonable bids. There are no cancellations: if the bid is accepted, the customer's credit card is debited.

This is an original concept but the fact remains that the company had air ticket revenues of only about $200m in 1998 and is not expected by analysts to turn a profit until 2001. Interestingly, Delta owns about 10% of Priceline.com, (which should be worth $1.5bn), but Delta's own stockmarket value is $10.2bn, its revenues are $14.4bn and its net profit about $1.1bn. Evidently, normal financial laws are suspended in cyberspace.

Perhaps a more sustainable airline/internet connection is represented by Travelocity.com, which is being developed by Sabre, which in turn is 80% owned by AMR Corp, the parent of American. This company acts as a normal travel agency but only on the Internet. Revenues are estimated to be in the order of $500m a year (but this is revenue just from commissions generated, whereas Priceline.com's revenues represent the total price of the ticket sales).

So if Travelocity.com were to be spun off (some form of IPO has been rumoured) then it should logically (internet logic, that is) command a price well above Priceline.com's $14bn. Yet AMR's stockmarket valuation is just over $9bn and, as well as the airline, it owns 80% of the second largest CRS in the world.

Impact on CRSs

There are also indications that CRSs, as an electronic service, are being affected by the speculation in new technology stocks. In April two airlines announced plans to cash in: United intends to sell 17% of Galileo and KLM 10%. These secondary public offerings are expected to raise $900m and $555m respectively.

These appear to be modest transactions compared to the Internet plays. But again, a few comparisons are intriguing. In KLM's case the 10% ownership of this CRS therefore equates to 26% of the airline's stockmarket value. In United's case its total 32% ownership of Galileo is the equivalent of 18% of its stockmarket value. There is still currency in Bob Crandall's famous statement to the effect that he would like to sell American Airlines and keep the Sabre CRS.

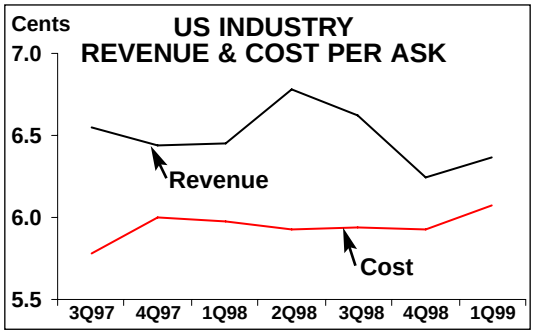
Beyond all the stockmarket hype there is a message: that there is a strong belief that the Internet and technology related to it will fundamentally change airline distribution. The trouble is that nobody is exactly sure how, and there is even less of an idea as to who are going to be the winners and losers in this game. Hence, the strange valuations.

Industrial action hits US industry results

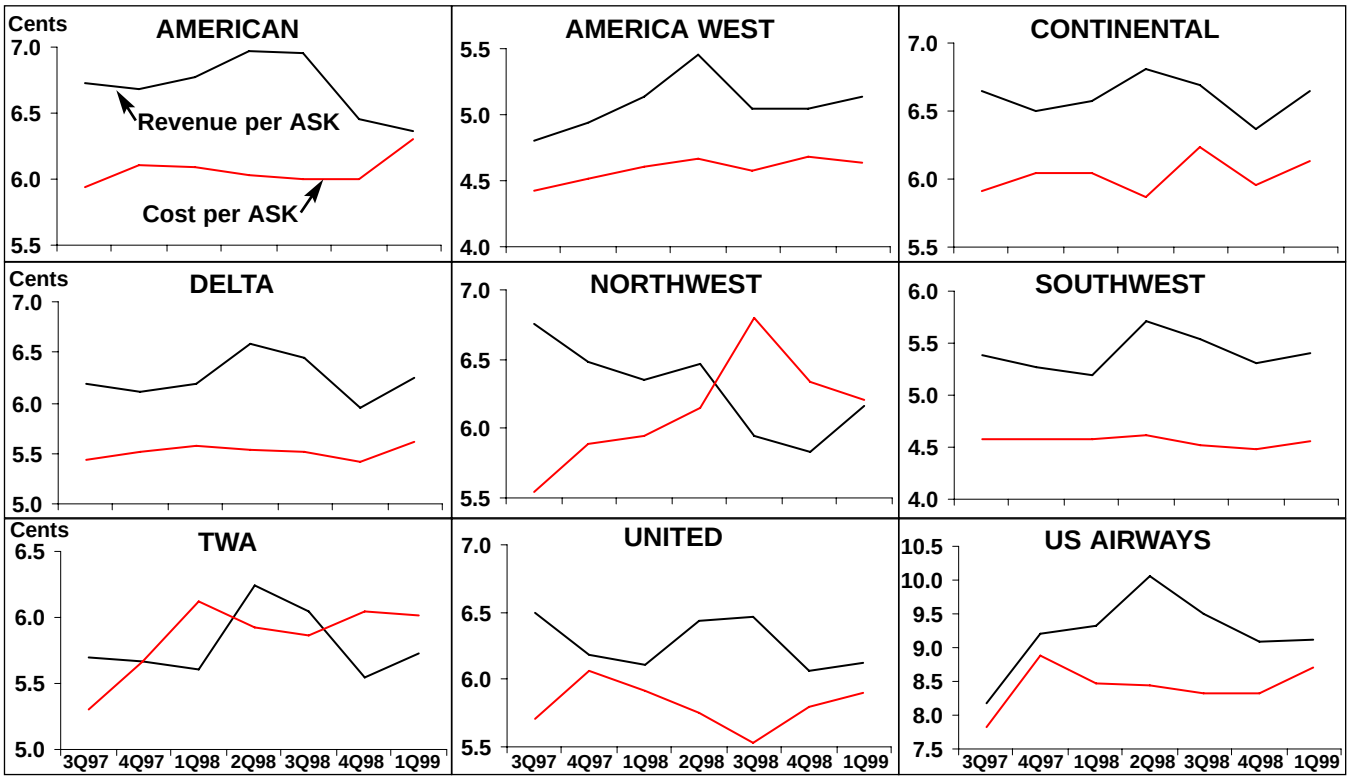
First quarter 1999 results for the nine major US airlines were poor compared with 1Q 1998, due largely to the effects of industrial action at American and Northwest.

Combined operating profit for the nine airlines in 1Q 1999 was $954m - compared with $1,477m in January-March 1998 (a fall of 35%). Combined net profit was $653m in the first quarter of 1999, 21% down on the comparative figure for 1Q 1998 - $835m. The gap between industry unit revenue and cost closed to 0.30 cents per ASK in 1Q 1999 - compared with a gap of 0.47 cents in 1Q 1998.

The poor industry performance relative to last year was due to just three airlines - American, Northwest and US Airways - which saw combined operating profit fall by $663m in 1Q 1999. **American** recorded the steepest decline in operating profit, from $427m in 1Q 1998 to $37m in 1Q 1999, thanks largely to industrial action by its pilots in February. However, American may be compensated for most of the strike losses after having successfully sued the unions in the courts. **Northwest** saw a $156m operating profit in 1Q 1998 turn into a $14m loss in 1Q 1999, due to continuing knock-on effects of the 1998 strike. **US Airways** recorded a $103m drop in operating profit in 1Q 1999 to $89m, due to "poor weather" and a change of computer systems.



Combined ASK in 1Q 1999 rose by 2.4% compared with 1Q 1998, but industry RPK rose faster - by 3.9% - resulting in a 1.0% increase in overall load factor to 68.7%.

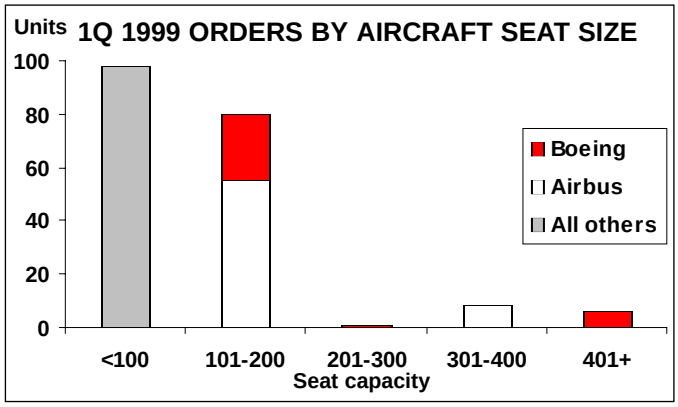


Orders slump in the first quarter of 1999

First quarter figures for jet manufacturers confirm the peak in the ordering cycle has passed.

In January-March 1999 the jet manufacturers received 193 firm orders. Airbus recorded 63 orders, compared with 193 in the first quarter of 1998, and Boeing received 32 orders, compared with 119 in January-March 1998. However, the big winner was Bombardier, which recorded an impressive 90 orders in the first quarter of 1999 - almost half the total orders Bombardier received in the whole of last year.

As can be seen in the chart below, there were very few orders for aircraft with more than 200 seats. The <100 seat market picked up 98 orders, largely thanks to Bombardier, while the 101-200 seat market recorded 80 orders, with Airbus's A320 family outselling the 737 family by more than 2:1. However, this should not disguise the fact that the 101-200 seat market total of 80 is well down on the orders received in 1Q 1998 - 283 aircraft.



Airbus looks to the lessors

Not surprisingly, Airbus could not repeat its impressive order tally of 1Q 1998, which was based on large orders from Sabena, United, TAM, LanChile and TACA. However, the good news for Airbus in 1Q 1999 was that it picked up a significant chunk of orders for its A320 family from lessors.

Large orders from Boullioun and GECAS, with a smaller one from ILFC, accounted for 45 out of Airbus's total of 63 orders in 1Q 1999. In contrast, lessors only ordered two aircraft from Boeing in 1Q 1999. While one quarter is too brief to be statistically significant, lessors appear to be building up their portfolio of A320s at a faster rate than 737s. In the whole of 1998, lessors ordered 52 A320 family aircraft and 47 737 family aircraft.

On deliveries, Airbus delivered 13 A319s, 25 A320s, 13 A321s, 8 A330s and 6 A340s in the first quarter of 1999, for a total of 65 aircraft - compared with 54 in 1Q 1998.

Boeing picking off Europe

Like Airbus, Boeing has failed to pick to the large orders that underpinned its total for

AIRBUS FIRST QUARTER 1999 FIRM ORDERS

	A300 -600R	A310 -300	A319	A320	A321	A330 TBA	A330 -200	A340 TBA	A340 -300	A340 -500	A340 -600	
European airlines												
DaimlerChrysler			1									
Iberworld				2								
Swissair				7		3						
European total			**1**	**9**		**3**						**13**
Asian airlines												
Singapore Airlines										5		
Asian total												**5**
Lessors												
Boullioun AS			15	15								
GECAS			1	8	3							
ILFC			1	2								
Lessors total			**17**	**25**	**3**							**45**
TOTAL ORDERS	**0**	**0**	**18**	**34**	**3**	**3**	**0**	**0**	**0**	**5**	**0**	**63**

BOEING FIRST QUARTER 1999 FIRM ORDERS

	717 -200	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 -200ER	767 -300ER	777 -200	MD 11-F	MD 80/90	
European airlines																			
Air Berlin							4												
CSA			2																
Lauda Air						4									1				
KLM							5				4								
European total			**2**			**4**	**9**				**4**				**1**				**20**
North American airlines																			
Atlas Air										2									
North American total										**2**									**2**
Latin American airlines																			
COPA Airlines						8													
Latin American total						**8**													**8**
Lessors																			
GECAS		2																	
Lessors total		**2**																	**2**
TOTAL ORDERS	**0**	**2**	**2**	**0**	**0**	**12**	**9**	**0**	**0**	**2**	**4**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**32**

the first quarter of 1998 (from Continental and Ryanair). As a result, Boeing's order total for the first quarter (32 aircraft) was half that of Airbus's figure.

Where Boeing has done well though is in picking off small customers in Airbus's back yard - Europe. Boeing sold 20 aircraft there in January-March, compared with just 13 European orders for Airbus. Elsewhere, however, Boeing did less well. It sold just two aircraft in its home market, North America, in the quarter, and none in the Asian market (where Airbus sold five aircraft to Singapore Airlines).

Boeing's total deliveries in the first quarter of 1999 were 148 (compared with 108 in 1Q 1998), made up of 14 737 classics, 61 737 next generation, 14 747s, 17 757s, 11 767s, 23 777s, 2 MD-80s, 5 MD-90s and 1 MD-11.

Bombardier rampant

Bombardier's order total of 90 aircraft was based on the sale of 54 CRJ-200LRs to Northwest Airlines and 25 CRJ-200LRs to SkyWest Airlines. The CRJ is fast becoming the aircraft of choice for regional operators, and other jet manufacturers - let alone turboprop companies - appear to be unable to prevent its advance.

Between them, British Aerospace and Embraer picked up eight orders in the first quarter of 1999, all of them from European airlines.

Embraer does have the protection of a large orderbook, although the March World Trade Organisation ruling against Brazil's Proex export finance programme is likely to result in higher prices for Embraer products in the future.

Embraer's hopes in the second quarter of 1999 may rest largely on an anticipated order for 15 regional aircraft (and 25 options) from Crossair. Embraer's ERJ-170 and ERJ-190 aircraft are reported to be the favourites for this order, based on the aircraft's capability for short take-off and landing (STOL). A final decision is expected from Crossair sometime this summer.

OTHER MANUFACTURERS' FIRST QUARTER 1999 FIRM ORDERS

	ERJ -135	ERJ -145	CRJ -100	CRJ -100LR	CRJ -200	CRJ -200LR	CRJ -700	RJ -100	Do-328JET	Do-728JET	
European airlines											
Aegean Aviation								2			
Jersey European					4						
Maersk Air					2						
LOT		6									
European total		**6**			**6**			**2**			**14**
North American airlines											
Air Wisconsin						5					
Northwest AL						54					
SkyWest AL						25					
North American total						**84**					**84**
TOTAL ORDERS	**0**	**6**	**0**	**0**	**6**	**84**	**0**	**2**	**0**	**0**	**98**

Midwest Express: unusual formula, consistent success

Midwest Express is unique among the US post-deregulation new entrants in that it survived and has been consistently profitable. This is because it went against the grain: providing superior service at reasonable prices, catering primarily to business travellers and adopting a cautious, low-risk growth strategy. But can profit gains be sustained in the face of more intense competition and labour cost pressures?

About to celebrate the 15th anniversary of its first flight on June 11, Midwest Express was founded in 1984 as a subsidiary of K-C Aviation, which is part of the Kimberly-Clark Corporation. The industrial conglomerate had been providing air transportation for its own executives between headquarters and company mills since as early as 1948, and deregulation enabled the Kimberly-Clark Corporation to capitalise on its aviation expertise through the formation of a commercial airline venture.

The corporate aviation roots meant a natural focus on the business travel segment - something that has differentiated the Milwaukee-based carrier from two generations of new entrants. Midwest's own contemporaries - such as People Express - adopted low-fare strategies, grew too rapidly or chose the wrong markets, and most eventually failed. The ValuJet generation of 1993-1995 also came very close to extinction because they initially made the same mistakes (although many have now become profitable by changing their strategies).

MIDWEST EXPRESS HOLDINGS FLEET PLANS

	Current fleet	Orders (options)	Delivery/retirement schedule/notes
DC-9	24	0	
MD-80	3	0	Five more second-hand MD-80s to join fleet by end of 1999
Beech 1900D	15	0	
328JET	0	5 (10)	Delivery in 1999
TOTAL	**42**	**5 (10)**	

In contrast, Midwest Express continued steady, conservative growth and remained profitable through all the industry upheavals. It now has a 12-year unbroken profit record. In recent years it has posted double-digit annual growth in revenue and earnings. For 1998 the company reported a 44% higher net profit of $35.9m, representing a healthy 9.2% of revenues.

Midwest Express Holdings, which also includes commuter affiliate Astral Aviation (which operates as Skyway Airlines), went public in September 1995 in an $81m IPO. This was part of Kimberly-Clark's policy of shedding non-core businesses and it meant no changes to leadership or strategy.

Eight months later, in May 1996, Kimberly-Clark divested itself of its remaining 20% stake in Midwest through another public offering. The company's shares have performed well since being listed, more than doubling from $10-$15 in late 1995 to $30-$35 last summer and have since then largely maintained their value. There have been two 3-for-2 stock splits, in May 1997 and May 1998, and a common stock repurchase programme has been in place for a year or so.

Midwest's balance sheet has traditionally been strong, but its cash position has been somewhat weakened by aircraft purchases over the past two years. It ended 1998 with cash reserves of $13.5m, down from about $32m a year earlier. But this is not believed to pose a problem because of continued strong profitability.

It is not easy to categorise Midwest. The investment community sometimes lumps it with the US regionals because of its corporate focus and strong profit growth, but it is really a "national", with a fleet of DC-9 and MD-80s, a nationwide route network and annual revenues approaching $400m. But high cost levels (similar to those of US Airways) set it apart from other national carriers.

In a nutshell, Midwest's financial success has been due to its ability to earn yields that are substantially higher than unit costs. It has continued to achieve passenger yields higher than 19 cents per RPM, while keeping its unit costs flat, at just under 12 cents per ASM (see chart, page 12). How does it do it?

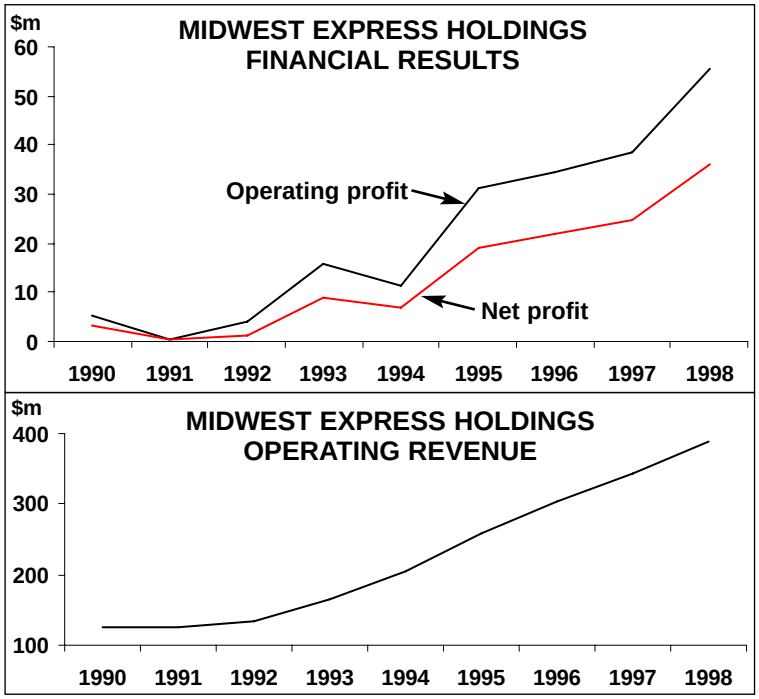
Dedication to premium service

Midwest Express has maintained premium yields in part thanks to its unwavering dedication to the business passenger segment and service quality in general. It operates a single-class service featuring two-across leather seats - its DC-9s and MD-80s have about 20% fewer seats than normal. It provides first-class meals with free wine or champagne, spending twice as much on meals (about $10 per passenger) than the major carriers on average.

Midwest is also renown for providing passengers with personal attention, which is why it apparently spends a tremendous amount of time in the hiring process. In Southwest-style, the airline wants to make sure that all employees have a common vision and strives to maintain high staff morale.

Another important factor must be consistency - Midwest is permanently dedicated to improving the lot of its passengers, as opposed to making only sporadic efforts in that area. As a result, Midwest has won a long string of awards for service quality and innovation and has been named "the best airline in the US" by numerous consumer surveys.

The higher product costs appear to be more than offset by the premium yields, despite the fact that Midwest's business fares look more like coach fares and that it offers fares for all categories of passengers (i.e. it carries some low-fare traffic). This is the really puzzling aspect of its strategy. As CIBC Oppenheimer's Julius Maldutis, one of New York's most experienced and respected airline analysts, put it in an interview for CNN: "I would have said it will never work, going totally against the grain ... if I had not seen it."



Cost controls and efficiency

Midwest Express has kept its high cost levels in check through strict cost controls and constant efforts to improve efficiency. The mid-1990s saw substantial increases in aircraft utilisation and load factors. The average passenger load factor, at 65% in 1998, is now about ten percentage points higher than it was up to and including 1992. Last year saw major maintenance efficiency improvements thanks to an enhanced maintenance programme and expanded facilities at Milwaukee.

The emphasis has now shifted to improving efficiency through automation, new technology and process streamlining. Last year saw the introduction of automated systems, among other areas, for flight operations database and air cargo tracking. On-line booking and ticketing options have been developed. Electronic ticketing has been offered to passengers booking directly with the airline since late 1997 and was recently introduced at US travel agencies using Worldspan and SABRE, with Amadeus and Galileo following in the current quarter.

After four years of being virtually the lone holdout, in February Midwest Express

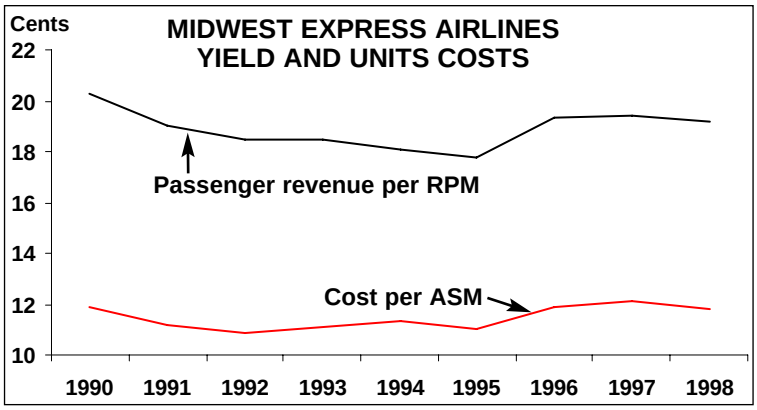
finally followed the rest of the industry and cut travel agent commissions to 8% and imposed a $50 cap per roundtrip. The carrier said that the move was made in order to remain competitive in the face of rising distribution costs.

Serving the right markets

One thing that distinguishes Midwest from other post-deregulation new entrants is that it has obviously found the right markets. The strategy has been to serve selected major business destinations. The carrier will apparently only enter a market if it believes that the high-yield strategy can be successfully applied.

The network, centred on Milwaukee and Omaha, now covers 24 major destinations all around the US, including the key cities on both east and west coasts, plus Toronto. Most are served from the main hub at Milwaukee (Wisconsin), where about 80% of Midwest's 2,200 employees are based, and a secondary hub at Omaha (Nebraska), which was opened in May 1994.

Midwest has benefited greatly from having its own feeder subsidiary. Astral (Skyway) began operations in February 1994 by taking over the feeder routes that Mesa had operated since 1989 under a five-year codeshare agreement with Midwest. Astral currently serves 25 cities, providing connecting traffic to the larger carrier and point-to-point service in selected markets. Midwest has also benefited from limited codeshare operations with American Eagle, introduced about a year ago in certain markets.



Midwest is fortunate in that it has no direct non-stop competition in the bulk of its markets. Cities like Milwaukee and Omaha have never captured the interest of the major carriers, which provide non-stop flights there only from their hubs. Yet those two cities are large population centres with strong and stable economic bases (including headquarters for numerous Fortune 500 companies) and good growth prospects.

The combination of lack of direct competition and Midwest's high service quality, reasonable fares and adequate frequencies have given the carrier an enviably strong market position. New routes such as Kansas City-Raleigh/Durham, Omaha-Orlando and Milwaukee-Hartford (Connecticut) have performed well, and there are plans to expand service from the two hubs and from Kansas City.

This month (May) and in June the carrier will launch four daily Milwaukee-San Antonio flights via Kansas City, boost frequencies on services from Milwaukee to Toronto, Denver and San Francisco, increase capacity on the four-per-day Kansas City-LaGuardia flights by switching to MD-80s and upgrade Milwaukee-Hartford to six per day all-non-stop operation. Astral will play a key role in Midwest's expansion strategy. The success of Omaha has led to tentative plans to announce another hub by the end of next year.

Fleet and capacity plans

Midwest has been disciplined enough to grow slowly. The early 1990s saw no capacity addition, and since 1993 ASM growth has averaged around 13-14% annually - a rate that may seem high but is not when considering the relatively small initial scale of operations. Until last year, Midwest's jet fleet expanded at a rate of only 1-2 aircraft per year, from 12 in 1990 to 24 at the end of 1997.

The past couple of years have seen growth accelerate, following a 1996 decision to acquire a batch of high-quality, low-cycle ex-Garuda DC-9-32s and a September 1997 decision to buy eight ex-JAS MD-80s. The

deliveries of the first three MD-80s boosted Midwest's total jet fleet to 27 aircraft at the end of 1998, and the remaining deliveries will give it a 32- strong fleet at the end of this year (24 DC-9s and eight MD-80s).

Last summer the company decided to supplement Astral's fleet of 15 leased Beech 1900Ds with up to 15 Fairchild Dornier 328 regional jets. A firm order was placed for five of the 32-seat jets plus 10 options.

Deliveries began in March and Astral expects to receive its third jet by the end of the current quarter. Most of the DC-9s are owned, though some were sold and leased back in late 1996 in the context of a refinancing of the entire Beech 1900D fleet. The MD-80s have been financed with a combination of debt and internal cash flow.

The fleet additions boosted Midwest's capacity growth to about 20% in the first quarter, and the carrier expects 25% growth for the year as a whole. In the case of many other airlines that could constitute a warning sign, but Midwest's record of managing growth and consistent profitability let it off the hook.

Labour and other challenges

Until four years ago, Midwest Express and Astral were totally non-unionised and enjoyed excellent labour relations. But that changed in the summer of 1995 when Astral pilots organised under ALPA. Since then Midwest's pilots have followed suit and are now seeking federal mediation in what they regard as "stalled" initial contract talks (which only began last August).

Midwest's 350 cabin attendants, in turn, are currently holding elections to be represented by AFA, saying that they have recognised the value that they bring to their employer. Ballots were mailed on March 25 and were due to be counted on April 29.

All of this, of course, is in line with the industry trend of labour demanding its share of the healthy profits, and it would have been surprising if Midwest had escaped it altogether. Like other carriers, Midwest may have to grant sizeable pay increases and then try to offset those with cost cuts in other areas.

MIDWEST EXPRESS HOLDINGS' FIRST QUARTER 1999 RESULTS

$m	1Q 1999	1Q 1998	% change
Operating revenue			
Passenger services	88,862	79,201	12.2%
Cargo	3,033	2,931	3.5%
Other	6,986	6,280	11.2%
Total operating revenue	**98,881**	**88,412**	**11.8%**
Operating costs			
Salaries/wages & benefits	29,021	26,303	10.3%
Fuel	10,356	11,203	-7.6%
Commissions	7,068	6,625	6.7%
Dining services	5,198	4,398	18.2%
Station & landing fees	8,003	7,205	11.1%
Maintenance	10,378	7,468	39.0%
Depreciation	2,970	2,335	27.2%
Aircraft rentals	4,890	4,711	3.8%
Others	9,732	8,761	11.1%
Total operating costs	**87,616**	**79,009**	**10.9%**
Operating profit	**11,265**	**9,403**	**19.8%**
Other income/expenses	100	325	n.m.
Pre-tax profit	11,365	9,728	16.8%
Net profit	**7,013**	**6,080**	**16.8%**

Note: *n.m. = not meaningful.*

All is not totally well on the revenue side either. In the past two quarters, Midwest's yields declined much like those of the rest of the industry, despite its relatively low exposure to competition. As a niche-type operator it may always lead a relatively sheltered existence, but how long can lack of direct competition be sustained in so many major markets?

While there are no guarantees of continued strong earnings growth, analysts seem convinced that the only direction for Midwest Express is up. There is much confidence in the company's longstanding top management, led by Tim Hoeksema as chairman and CEO. The team was recently strengthened with new senior appointments, desirable as the airline grows. The general feeling is that, like Southwest, Midwest Express will either overcome any future challenges or turn them into its advantage.

The current consensus forecast of six analysts reporting to First Call is that Midwest Express Holdings will increase its earnings per diluted share from last year's $2.51 to $2.75 in 1999 and $3.04 in 2000.

The shares are regarded as undervalued in the light of a P/E ratio of 11.3 (1999 earnings) and an expected 12% annual growth in earnings over the next five years.

By Heini Nuutinen

Air France: partly-privatised, but fully-commercialised?

Finally, Air France has returned to profitability and has part-privatised. But can the airline make it into the top ranks of the commercial airline business?

Air France's public share offering in February of approximately 20% of the company was hugely oversubscribed and the current share price stands at € 16.6, capitalising the airline at approximately € 3.8bn (or $4.1bn).

This represents a 25% discount to Lufthansa on a cash flow/price comparison. Stockmarket analysts suggest that such a discount is the minimum expected because the French government has only sold a minority stake in its airline and at present has no plans to relinquish its majority holding. State ownership now stands at 64% (down from 94%), while employees have 13% of the shares and private investors 23%.

Interestingly, Air France's current market value is approximately the same as the state aid injection it was permitted by the EC in 1994 (the earlier Ff5bn payment into the airline by the French government was deemed not to be state aid).

AIR FRANCE FLEET PLANS

	Current fleet	Orders (options)	Delivery/retirement schedule/notes
737-200	19	0	To be retired by 2000
737-300	6	0	
737-500	19	0	
747C	14	0	
747-100/200	4	0	To retire in 1999
747-400	7	0	
747-400C	6	0	
747F	12	0	
767-300	5	0	
777	0	7 (10)	For delivery in 1999/2000
A310	11	0	
A318	0	15 (10)	Delivery from 2003 onwards
A319	9	20 (16)	To replace 737-200s
A320	61	0	
A321	11	5 (4)	To replace 737-200s
A340-200	14	0	
A340-300	0	4 (4)	To replace A340-200s in 1999
Concorde	5	0	
F-27	10	0	
F-100	5	0	Transferring in 1999 to franchise partners BritAir and Proteus
TOTAL	**218**	**51 (44)**	

The turnaround

In 1997/98 Air France reported its first net profit for seven years - Ff1.9bn ($338m) representing a margin of 3.6% on revenues. This mainly resulted from an increase in unit revenues associated with good demand conditions and better application of yield management. For strike-impacted 1998/99 the net profit is forecast to decline to Ff1bn ($181m), or 1.6% of revenues, with revenues falling slightly and operating cost growing very slightly. The decrease in fuel prices last year was critical; without that factor the airline would have struggled to break even.

There have been three major influences on the Air France turnaround. The first was Christian Blanc's administration (1994-97), which confronted the management and unions at the airline with the reality of European liberalisation and which implemented the EC-sanctioned recovery plan.

The second was the administration of Jean-Cyril Spinetta, who replaced Blanc in 1997. Spinetta has succeeded in pushing through the airline's part-privatisation, in the process reaching an accommodation with the pilots unions, perhaps because he comes from the *dirigiste* tradition, having held high-level posts in the French government.

For example, in a very influential article published in *Le Monde* in May 1998, Spinetta focused on the what he saw as the key issue for Air France: the divergence in labour costs between Air France and its major European competitors, yet he still refused to accept the possibility that a flag carrier could go bankrupt. Rather, Spinetta referred to Air France's future as "a slow death, through gradual asphyxiation: this will inevitably be the fate of Air France in the next 10 to 15 years if the company does

not definitively solve its problems of competitiveness". In the commercial world, a 10-15 year timescale is a great luxury.

The third and most nebulous influence was that of Steven Wolf and Rakesh Gangwal, now chairman and CEO respectively at US Airways, who played key advisory roles during the Blanc administration. It is possible to discern their influence in the restructuring of Air France's routes and also in the employee participation at the airline.

Route rationalisation

One of the most impressive elements of Air France's turnaround has been its willingness to abandon loss-making routes - something that flag-carriers traditionally find very difficult to accept. Since 1995 Air France has closed 41 of its 120 long-haul routes and 15 of its 121 medium-haul routes. This process is still continuing, with Air France recently withdrawing from Nagoya and Cape Town.

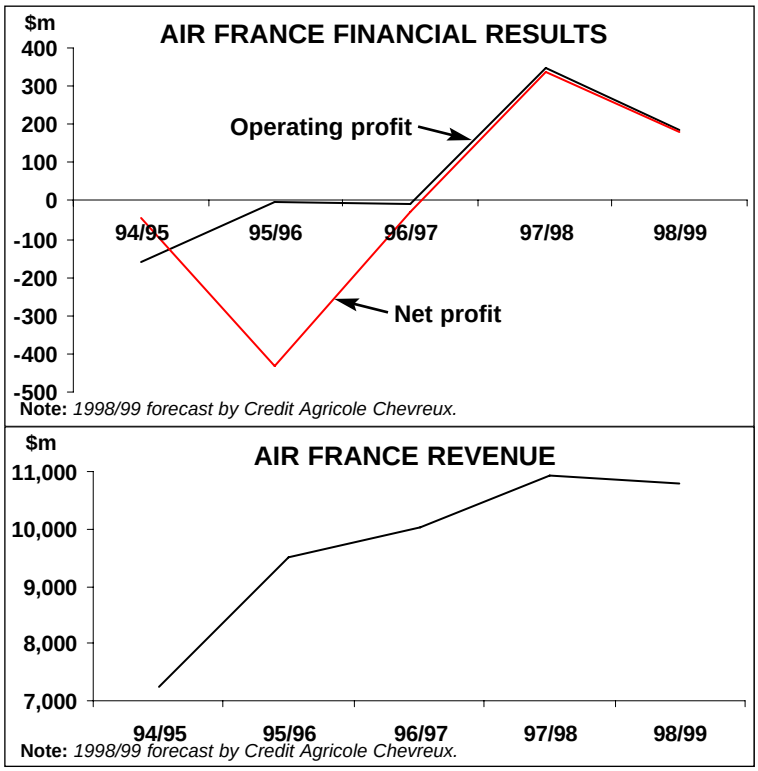
The airline has concentrated on increasing frequencies on the routes which are regarded as having growth potential, moving up to daily service whenever possible. Air France has also worked on simplifying its route structure, increasing the proportion of non-stop long-haul flights from 53% in 1994 to 76% last year. And it has streamlined its operations by allocating one type per route, improving the efficiency of crew rostering and boosting the utilisation of the long-haul fleet.

The success of this approach is reflected in Air France's load factor. In 1998/99 its passenger load factor was 75.5%, against the AEA average of 72.0%.

The fleet too is being harmonised into five main types -747, 777, A340, 737 and A320. The 727s and A300s are been eliminated, and the F100s have been leased out to the franchisee partners. Growth in the next few years will be concentrated in the 777/A340 category.

Hub building

Air France's greatest asset is its hub at Paris Charles De Gaulle, where it has quickly built up a six wave system. As a result the airline can claim that it has the best hub in Europe. Connecting possibilities between short- and long-hauls (defined as connections in less than two hours) will total 10,300 a week this summer, following the opening of the third runway, compared with 4,000 at London Heathrow.



Moreover, at CDG there is room for expansion without virulent environmentalist opposition. A fourth runway due for opening in 2001 and the imminent completion of a new terminal will increase capacity by about 50%, potentially making CDG a larger airport than Heathrow. (Before getting too carried away with the brilliance of the CDG hub, it is worth remembering that this airport has still some way to go to catch up with Heathrow: terminal passengers in 1997 at CDG totalled 35.1m, compared with 57.8m at LHR, while domestic and intra-EU passengers totalled 18.9m at CDG against 29.3m at London Heathrow.)

Expansionism

At the core of Air France's strategy is expansion. On long-haul routes Air France

is forecast to grow by around 11%, somewhat less than Lufthansa but over four times British Airways' rate. On the North Atlantic, the airline is going to increase capacity by 15% whereas BA will grow at less than 5%.

Air France is quite clear about its aims. In a recent interview, Pierre Gourgeon, the president and COO, stated that the aim simply was to grow at twice the rate of the market. The dangers of such a market share attack, especially at this point in the aviation cycle, should be evident, so what could be the drivers behind Air France's chosen strategy?

The official rationale is that the airline has to recapture the traffic it lost, both domestically and internationally, during the years when it was constrained by EC conditions attached to its state aid (and by the suspension of the France-US bilateral). Yet the downsizing of the network in recent years is a key element of its financial recovery. And the risk of over-expansion is yield dilution - even modestly growing European carriers are experiencing unit revenue declines of 5-10% this year.

It may simply be that Air France has no choice but to expand rapidly. Its greatest asset - Charles De Gaulle - could also be a liability. It has got to fill the new slots there or risk the entry of a competitor at its home base, in the same way as American and British Airways (through *Air Liberte*) have established an important presence at Paris Orly.

The expansion is also closely tied in with its alliance strategy. With its two US code-sharing partners, Delta and Continental, Air France is now able to offer daily service to 10 gateways and 26 interior points, and its growth rate is partly being determined by these two US Majors - on the Atlantic Continental is expanding at 21% this year and Delta at 13%.

In the March issue of *Aviation Strategy* we speculated that a Delta/Air France core to a global alliance capable of competing with oneworld and Star would be more likely than an Air France/Continental amalgam which would also tie in Northwest/KLM/Alitalia. Air France's current strategy would tend to reinforce this viewpoint - the carrier has to win traffic from other carriers if it is to meet its growth target, and the airport from which it is most likely to win traffic is Schiphol, a direct threat to KLM/Northwest/Continental. Similarly, Air France's build-up of its hub at Lyons poses a threat to the incipient KLM/Alitalia hub at Milan Malpensa.

Then there is the effect of growth on unit costs. Air France has the aim of reducing unit costs by 10% by 2001. Identified cost savings of Ff3bn are to come from such sources as the recent pilot agreement, network rationalisation, process engineering, the optimisation of purchasing power, revenue protection measures and lowering commission rates.

The problem is not only that some of these cost saving sources sound pretty vague, it is also that Ff3bn equates to a maximum of only 5% of Air France's operating costs. So the other half has to come from economies of scale resulting from growth. This is always a risky strategy, especially when yields start to deteriorate badly.

Labour relations

Air France has had the archetypal state-airline problem: expensive and stroppy unions, particularly pilots' unions. The pilots

CHANGES IN AIR FRANCE'S FINANCIAL PERFORMANCE

Ff bn	1996/97	1997/98	1998/99	FY98/97	FY99/98
Total revenues	**55,602**	**60,716**	**59,943**	**9%**	**-1%**
Operating costs					
Staff	4,639	4,858	5,170	5%	6%
Fuel	5,642	5,753	4,723	2%	-18%
Maintenance	799	1,125	1,308	41%	16%
En-route	4,798	4,691	4,682	-2%	0%
Handling	2,739	3,234	3,085	18%	-5%
Sales	3,838	4,598	4,820	20%	5%
Leasing	3,158	4,015	4,217	27%	5%
Depreciation	4,639	4,858	5,170	5%	5%
Others	25,401	25,661	25,728	1%	6%
Total operating costs	**55,653**	**58,793**	**58,903**	**6%**	**0%**
Operating profit	**-51**	**1,923**	**1,040**	**n.m.**	**-46%**
Other income	252	507	391	101%	-23%
Interest etc	-1,071	-1,114	-534	4%	-52%
Taxes etc	723	558	106	-23%	-81%
Net profit	**-147**	**1,874**	**1,003**	**n.m.**	**-46%**
ASKs (m)	92,073	95,168	101,086	3%	6%
RPKs (m)	68,083	71,553	75,919	5%	6%
Load factor	73.9%	75.2%	75.1%	+1.3pts	-0.1pts

Note: *n.m. = not meaningful. 1998/99 forecast by Credit Agricole Chevreux.*

went on strike in the summer of 1998 threatening the football World Cup (quel horreur!), but the consequent deal has been presented as a solution to these problems. The deal includes:

• A wage freeze to 2001, then a reassessment, with the possibility of a further three years of zero increases;
• Wage give-ups in turn for shares (the low offer price was certainly influenced by the pilots);
• The alignment of working practices with those of British Airways, Lufthansa and KLM; and
• A scope clause that allows the outsourcing of operations of less than 100-seat aircraft to franchisees and others.

Inter-airline pay comparisons are very difficult to make because of the complications of taxes, work rules, actual productivity etc, but Spinetta's own assessment of the difference between the labour costs of his pilots and British Airways' pilots is 40%. Officially, it will take up to seven years to close this gap under the current agreement.

However, it is expected or hoped that share ownership by the pilots will contribute to a change in corporate culture. As in many flag-carriers, there is the feeling that the unions exercise ultimate control while top management is changed too often to effect fundamental reform. Indeed, key strategic decisions at Air France have been driven by the unions - for instance, the unions blocked the project to merge Air Inter with Air France's European operations to create a potentially lower cost subsidiary, in effect forcing Air France to merge Air Inter into the parent. And, unfortunately, any new union/ management harmony has been dealt a blow by a strike by Air France employees at Nice over outsourcing and other issues.

Nevertheless, Air France's scope agreement, whereby up to 5% of total capacity can be flown by other operators in aircraft of less than 100 seats, is a major achievement. The problem may be a shortage of other operators. In France itself the main regional airlines - Air Liberte, Air Littoral and Regional - have been tied in by British Airways, Swissair and KLM respectively. This leaves Air France with just Brit Air and Proteus as franchisees, plus Gill Air and Jersey European in the UK.

In this regard Air France's launch order for A318s may be significant. The 100-seater jet, due for delivery in 2003, could theoretically be flown by a partner airline under the terms of the scope agreement. Then, as there is complete cockpit crew communality throughout the A320 family, Air France could have an embryonic low-cost subsidiary.

Commercialism and alliances

Just how commercial is Air France? Much of France continues to resist Anglo-Saxon notions of unbridled capitalism, and all the mainstream politicians still believe in some form of state ownership and control over the economy, a model which, it must be said, worked well for the country up to about 10 years ago and has produced higher per capita income than in the UK.

Throughout the tortuous period preparing for the part-privatisation it seemed that the transport minister was less than enthusiastic about the process - hardly surprising as he is a member of the *Parti Communiste*.

A glance at the composition of Air France's board of directors would also tend to suggest that the national role of the airline is at least as important as the commercial. Of the 18 board members, five represent the state (minister of economy, head of the CAA, etc), six are appointed as CEOs of nationalised companies (Spinetta himself plus the CEOs of French railways, the steel industry, etc) and seven are elected by employees.

There is therefore a fundamental difference in corporate governance between Air France and British Airways or Lufthansa or KLM. One wonders how much the potential US partners of Air France appreciate the full implications of this difference, and whether they would consider it a serious obstacle to forming an integrated global alliance. Or could Air France's top management use the leverage of a potential US investor to persuade the state to dispose of a majority shareholding, a move which is probably a pre-requisite for the full commercialisation of the flag-carrier?

How to structure a strategic alliance agreement

Strategic alliances are usually discussed in general terms - synergy, network overlap, economies of scope - but what are the items that actually have to be covered in an agreement? In this article *Aviation Strategy* reviews the issues an alliance agreement between more or less equal partners should cover, from schedule co-ordination and FFP reciprocity to codesharing and shared ground handling/maintenance.

Schedule co-ordination

The key element of a strategic airline alliance is schedule co-ordination. The basic aim is to co-ordinate schedules in order to minimise passenger waiting time for connections, while maximising passenger convenience across the combined networks. Each airline would still have the unilateral right to modify schedules, routes and flights, but notice, of say 30 days, would have to given of all changes involving codesharing flights, in order to allow assessment of the impact on both networks.

Inventory control

Inventory management also needs to be included in an agreement. Each party retains ultimate control over management of seat inventories on its own flights, but both parties would have automated procedures to access seat inventory on codeshared flights (passenger bookings, cancellations, seat maps, seat assignments etc).

In the case of a block space agreement it has to be decided whether it is “hard” (the airline purchases seats whether or not they are filled) or “soft” (whereby the price paid depends partly on loads). The two airlines may also decide to set up a trading zone whereby one carrier could buy slots from the other if bookings are stronger than expected.

Ultimately, the two carriers’ access to seat inventory information could lead to a joint yield management system. However, there may be antitrust concerns here.

Passenger service

The idea is to provide passengers with seamless service. This involves: harmonised boarding passes, documentation checks, baggage tags and frequent flier credits. The agreement should also emphasise seamless transfer, with co-operation in communicating efficiently to passengers via ticket wallet inserts, terminal and gate signage, and flight information displays. These measures help achieve the shortest possible connecting times between flights. In-flight product co-ordination includes announcements (making sure both airline codes are projected), in-flight videos, magazines and seat pocket inserts. The overall aim is to provide equal levels of service on codeshare flights with, for example, access to each other’s airport lounges.

Quality control

Quality control is an important issue. The airlines could establish a joint quality group that can define standards and goals in areas such as fight operations, passenger handling and baggage handling. The joint quality group can also monitor performance in comparison to defined standards, benchmark against the competition and goals, and act as a supervisor.

Exclusivity

At an early stage it has to be decided whether alliance members will be allowed to enter into codesharing agreements with other carriers, or under what circumstances an airline is allowed to explore links with others. Criteria for the suitability of new partners have to be established.

Fares, ticketing and revenues

Fares normally have to be independently established by each party but both airlines

must be able to issue tickets for codeshared flights. Therefore, co-ordination of revenue accounting between the airlines becomes important. If tickets are issued by and flown by same carrier, then that carrier retains the entire fare; if tickets are sold for travel on the other party's services and on connecting services, then the carriers have to agree terms for apportioning revenues. This will normally be done through a special prorate agreement.

Marketing and distribution

One of the most difficult areas to define is marketing strategy. The service benefits of the alliance should be stressed, but it is often essential to preserve separate brand identities because of customer recognition in diverse markets.

Usually, the alliance will have to develop and market an "umbrella" brand. It has to be decided how to link the individual airline brands with the umbrella brand. There will also be circumstances when the umbrella brand alone should be promoted.

A joint advertising and sales programme should be agreed. This may involve the sharing of sales and reservations facilities; joint employee training; joint travel agent incentive commission programmes; the establishment of mutual general sales agency relationships; and joint product development.

Frequent flier programmes

From the business traveller's perspective a joint FFP is the most tangible benefit of an alliance. So it is essential for the airlines entering an alliance agreement to participate in each other's FFP, which will probably involve simplifying and standardising the FFPs. Miles should be redeemable on both carriers' flights, at a mutually agreed redemption rate. The overall aim of the FFP clauses should be for each airline to promote the other as its "preferred partner" worldwide.

Airport facilities, ground handling and maintenance

The aim is to avoid duplication of operations and to save costs. Where possible, facilities and services should be shared at airports. This would include items such as joint passenger handling, line maintenance, freight warehousing, crew transportation facilities and flight operations.

Signs at shared facilities should display functional and accurate signage identifying each carrier and the service it provides, including its brand identity.

Provisions for aircraft ground handling services should explore possibilities for each airline to perform aircraft ground handling services for the other airline, including de-icing, fuelling and aircraft maintenance, and overhaul at appropriate locations. The airlines should make efforts to arrange for terminal facilities at gateway airports to meet the objective of providing the passenger with service levels equivalent to on-line connections.

Bulk purchasing of kerosene is a possible way of achieving cost savings. Also, the airlines should examine ways of making savings through joint purchasing of third party services such as, for example, aircraft cleaning.

Cargo

Cargo should be an integral part of the alliance agreement, not an afterthought. As with passengers the airlines have to negotiate preferential prorates. The airlines could pool their cargo expertise to explore a joint product for express package shipments; to share trucking operations worldwide and to evaluate opportunities to link facilities and sales offices. Again, sharing and rationalising airport facilities should be part of the alliance agreement.

Joint alliance committee

To oversee the operation of the whole alliance, there should be a high level executive committee. Its responsibilities should be to:

- Review planning and implementation of the co-operation between the alliance parties;
- Make final decisions on marketing harmonisation and joint system development;
- Co-ordinate between department heads in the partner airlines; and
- Attempt to resolve any disputes that arise.

EUROPEAN SCHEDULED TRAFFIC

	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 %
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
1997	174.8	110.9	63.4	176.5	138.2	78.3	130.4	96.9	74.3	419.0	320.5	76.5	621.9	450.2	72.4
1998	188.3	120.3	63.9	194.2	149.7	77.1	135.4	100.6	74.3	453.6	344.2	75.9	673.2	484.8	72.0
Feb 99	14.0	8.1	57.9	14.3	9.3	65.0	10.3	7.7	75.4	35.0	24.7	70.5	51.5	34.4	66.8
Ann. chng	4.0%	6.0%	1.1	12.7%	11.9%	-0.4	-0.8%	2.7%	2.6	8.7%	8.1%	-0.4	7.7%	8.2%	0.3
Jan-Feb 99	29.6	16.4	55.3	30.2	19.7	65.1	21.6	16.2	74.8	74.1	52.3	70.5	109.0	71.9	66.0
Ann. chng	4.9%	6.1%	0.6	13.8%	11.8%	-1.2	-0.9%	2.3%	2.3	8.9%	7.7%	-0.8	8.1%	8.0%	-0.1

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 %
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
1997	953.3	663.7	69.6	138.1	108.9	78.9	122.0	91.2	74.7	71.3	46.4	65.1	331.2	246.5	74.4
1998	961.0	679.1	70.7	150.3	118.5	78.8	112.1	81.6	72.8	84.0	52.3	62.3	346.4	252.4	72.9
Feb 99	74.0	49.6	67.0										25.4	17.2	67.7
Ann. chng	1.7%	3.4%	1.1										0.4%	1.2%	0.6
Jan-Feb 99	154.0	101.0	65.6										54.5	37.0	67.7
Ann. chng	1.1%	3.4%	1.5										1.6%	1.3%	-0.3

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

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 %
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	1,617	1,102	68.2	2,387	1,704	71.4	4,004	2,807	70.1	4.6	5.5	7.6	9.1	6.4	7.7
***1998**	1,624	1,122	69.1	2,470	1,751	70.9	4,094	2,873	70.2	0.4	1.8	3.5	2.7	2.3	2.4
***1999**	1,675	1,155	69.0	2,586	1,833	70.9	4,261	2,988	70.1	3.2	3.0	4.7	4.7	4.1	4.0
***2000**	1,738	1,194	68.7	2,729	1,930	70.7	4,467	3,124	69.9	3.7	3.3	5.5	5.3	4.8	4.5
***2001**	1,791	1,218	68.0	2,857	2,004	70.1	4,648	3,222	69.3	3.1	2.0	4.7	3.8	4.0	3.1
***2002**	1,806	1,210	67.0	2,916	2,015	69.1	4,722	3,225	68.3	0.8	-0.7	2.1	0.6	1.6	0.1
***2003**	1,857	1,273	68.5	3,066	2,165	70.6	4,923	3,437	69.8	2.9	5.2	5.1	7.4	4.3	6.6

Note: * = Forecast; ICAO traffic includes charters. **Source:** Airline Monitor, January/February 1999.

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
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	114	108	107	107	111	152	135	128	128	126	155	124	127	116	132
1997	118	112	110	109	112	172	146	142	142	138	177	135	136	123	132
1998	122	115	113	112	109	173	150	152	150	135	196	144	147	133	121
***1999**	124	116	115	115	109	179	154	159	156	140	211	150	156	141	124

Note: * = Forecast; Real = inflation adjusted. **Source:** OECD Economic Outlook, December 1998.

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
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
1997	102	105	85	148	131	81	104	94	100	129	129	69
***1998**	107	105	84	151	127	71	108	96	106	127	134	61

Note: * = First-half year. European indices = weighted average of BA, Lufthansa and KLM. US indices = American, Delta, 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 cost per employee. Unit fuel cost = fuel expenditure and taxes per ATK.

FINANCIAL TRENDS (1990=100)

	Inflation (1990=100)						Exchange rates (against US$)						LIBOR
	US	UK	Germany	France	Japan		UK	Germ.	France	Switz.	Euro**	Japan	6 month Euro-$
1990	100	100	100	100	100	**1990**	0.563	1.616	5.446	1.389	0.788	144.8	8.27%
1991	104	106	104	103	103	**1991**	0.567	1.659	5.641	1.434	0.809	134.5	5.91%
1992	107	107	109	106	105	**1992**	0.570	1.562	5.294	1.406	0.773	126.7	3.84%
1993	111	109	114	108	106	**1993**	0.666	1.653	5.662	1.477	0.854	111.2	3.36%
1994	113	109	117	110	107	**1994**	0.653	1.623	5.552	1.367	0.843	102.2	5.06%
1995	117	112	119	112	107	**1995**	0.634	1.433	4.991	1.182	0.765	94.1	6.12%
1996	120	114	121	113	107	**1996**	0.641	1.505	5.116	1.236	0.788	108.8	4.48%
1997	122	117	123	114	108	**1997**	0.611	1.734	5.836	1.451	0.884	121.1	5.85%
1998	123	120	124	115	109	**1998**	0.603	1.759	5.898	1.450	0.896	130.8	5.51%***
***1999**	125	122	126	116	108	**Apr 1999**	0.619	1.837	6.160	1.508	0.939	120.2	5.06%***

Note: * = Forecast. **Source:** OECD Economic Outlook, December 1998. **Euro rate quoted from January 1999 onwards. 1990-1998 historical rates quote ECU. *** = $ LIBOR BBA London interbank fixing six month rate.

STOCKMARKET VALUATIONS

	$bn market cap. (end March)	1999 estimated P/E	P/CF	P/BV
Alaska	1,254	11.1	5.4	1.7
America West	731	10.7	3.4	0.8
American	9,193	10.7	3.5	1.1
Continental	3,178	8.7	3.5	1.8
Delta	10,166	10.5	4.0	1.8
Northwest	2,419	13.0	3.4	4.1
Southwest	11,365	26.9	13.4	5.0
TWA	350	n.m.	8.9	-1.7
United	9,294	13.8	3.5	2.6
US Airways	3,832	9.9	4.8	2.3
Air Canada	810	9.7	2.6	0.9
Canadian	81	n.m.	-11.7	-0.9
North America average		**14.5**	**6.0**	**2.6**

	$bn market cap. (end March)	1999 estimated P/E	P/CF	P/BV
British Airways	7,136	16.4	4.6	1.3
KLM	2,145	13.2	3.7	0.8
Lufthansa	8,295	12.2	4.3	2.0
SAirGroup	2,506	11.1	3.3	1.2
SAS	1,463	7.9	3.1	0.6
European average		**13.0**	**3.9**	**1.4**
ANA	4,701	n.m.	7.9	5.4
Cathay Pacific	3,956	25.0	8.0	1.2
JAL	5,646	35.8	8.4	3.6
Qantas	3,323	13.8	3.4	1.5
Singapore	9,206	19.7	7.9	1.3
Thai	2,120	18.9	5.9	20.8
Asia/Pacific average		**14.6**	**7.1**	**3.5**

Source: Datastream/Goldman Sachs. **Note**: Averages include other airlines not listed here. n.m. = not meaningful.

JET AND TURBOPROP ORDERS

	Date	Buyer	Order	Price	Delivery	Other information/engines
ATR	-					
Airbus	Apr 26	Air France	15 A318s		2Q03+	Launch customer. + 10 options
	Apr 26	Egyptair	3 A318s		4Q02+	Launch customer
	Apr 21	Air Namibia	1 747 Combi		4Q99	
	Apr 21	New Air	25 A320s		2Q00+	+ 50 options
	Apr 20	CIT Group	25 A320s, 5 A330-200s		4Q00-05	Orders can be switched to A319s, A321s and A330-300s
	Apr 19	Aerolineas Arg.	6 A340-600s, 6 A340-200/300s		02 2Q99+	
BAe	Apr 15	CityFlyer Express	1 RJ100		2Q00	
	Apr 1	Aegean Aviation	1 RJ100		3Q99	
Boeing	Apr 20	Southwest Airlines	6 737-700s		00	From options
Bombardier	Apr 16	Changan Airlines	3 Dash-8Q400s	$60m		
	Apr 15	UNI Airways	1 Dash-8Q200			+ 1 option
	Apr 9	Midway Airlines	3 CRJs	$65m		From options

Note: Prices in US$. Only firm orders from identifiable airlines/lessors are included. MoUs/LoIs are excluded. **Source:** Manufacturers.

	Group revenue US$m	Group costs US$m	Group operating profit US$m	Group net profit US$m	Total ASK m	Total RPK m	Load factor %	Group rev. per total ASK Cents	Group costs per total ASK Cents	Total pax. 000s	Total ATK m	Total RTK m	Load factor %	Group employees
American*														
Jul-Sep 97	4,377	3,868	509	323	65,093.0	46,943.3	72.1	6.72	5.94	21,343	9,637.3	5,406.0	56.1	87,793
Oct-Dec 97	4,228	3,871	357	208	63,308.3	42,715.7	67.5	6.68	6.11	19,681	9,366.9	5,025.2	53.6	88,302
Jan-Mar 98	4,229	3,802	427	290	62,405.4	41,846.6	67.1	6.78	6.09	19,267	9,207.0	4,889.4	53.1	87,569
Apr-Jun 98	4,491	3,885	606	409	64,471.8	46,075.9	71.5	6.97	6.03	20,901	9,512.3	5,317.6	55.9	87,076
Jul-Sep 98	4,583	3,958	625	433	65,920.1	48,093.9	73.0	6.95	6.00	21,457	9,739.3	5,466.1	56.1	89,078
Oct-Dec 98	4,152	3,857	295	182	64,317.3	43,811.6	68.1	6.46	6.00					90,150
Jan-Mar 99	3,991	3,954	37	158	62,624.3	41,835.4	66.8	6.37	6.31					
America West														
Jul-Sep 97	462	425	37	18	9,623.6	6,779.9	70.5	4.80	4.42	4,692	1,205.8	724.3	60.1	11,506
Oct-Dec 97	473	432	41	20	9,573.7	6,219.9	65.0	4.94	4.51	4,375	1,200.4	670.1	55.8	11,232
Jan-Mar 98	483	434	49	25	9,408.0	5,851.4	62.2	5.13	4.61	4,149	1,180.7	630.2	53.4	11,329
Apr-Jun 98	534	457	77	41	9,787.8	6,899.1	70.5	5.46	4.67	4,643	1,228.9	733.0	59.7	11,645
Jul-Sep 98	499	453	46	22	9,884.3	7,108.3	71.9	5.05	4.58	4,665	1,240.4	746.9	60.2	11,600
Oct-Dec 98	507	470	37	20	10,037.2	6,491.9	64.7	5.05	4.68	4,335				12,100
Jan-Mar 99	520	469	51	26	10,135.4	6,485.5	64.0	5.13	4.63	4,263				
Continental														
Jul-Sep 97	1,890	1,683	207	110	28,462.1	20,982.1	73.7	6.64	5.91	10,822	3,331.3	2,206.5	66.2	35,630
Oct-Dec 97	1,839	1,707	132	73	28,278.6	19,400.1	68.6	6.50	6.04	10,188	3,381.1	2,140.0	63.3	37,021
Jan-Mar 98	1,854	1,704	150	81	28,199.8	19,427.5	68.9	6.57	6.04	10,072	3,372.4	2,134.4	63.3	37,998
Apr-Jun 98	2,036	1,756	280	163	29,891.1	22,007.2	73.6	6.81	5.87	11,261	3,629.6	2,399.3	66.1	39,170
Jul-Sep 98	2,116	1,973	143	73	31,609.9	24,049.4	76.1	6.69	6.24	11,655	3,801.8	2,542.9	66.9	40,082
Oct-Dec 98	1,945	1,817	128	66	30,557.4	21,273.3	69.6	6.37	5.95	10,637				40,700
Jan-Mar 99	2,056	1,896	160	84	30,938.8	22,107.0	71.5	6.65	6.13	12,174				
Delta														
Jul-Sep 97	3,552	3,121	431	254	57,424.7	42,783.2	74.5	6.19	5.43	26,478	8,112.8	4,946.2	61.0	69,502
Oct-Dec 97	3,433	3,101	332	190	56,177.4	38,854.9	69.2	6.11	5.52	25,464	7,941.4	4,639.6	58.4	69,982
Jan-Mar 98	3,390	3,053	337	195	54,782.2	37,619.0	68.7	6.19	5.57	24,572	7,766.6	4,448.9	57.3	71,962
Apr-Jun 98	3,760	3,165	595	362	57,175.5	43,502.6	76.1	6.58	5.54	27,536	8,189.9	5,049.5	61.7	74,116
Jul-Sep 98	3,802	3,250	552	327	59,017.9	45,242.3	76.7	6.44	5.51	27,575	8,486.8	5,196.9	61.2	75,722
Oct-Dec 98	3,448	3,128	320	194	57,810.9	39,947.7	69.1	5.96	5.41					75,160
Jan-Mar 99	3,504	3,148	356	216	56,050.3	39,163.9	69.9	6.25	5.62					
Northwest														
Jul-Sep 97	2,801	2,298	504	290	41,491.3	32,231.1	77.7	6.75	5.54	14,743	6,587.3	4,189.3	63.6	47,843
Oct-Dec 97	2,491	2,264	227	105	38,465.5	27,791.0	72.2	6.48	5.89	13,383	6,247.0	3,820.5	61.2	48,852
Jan-Mar 98	2,429	2,273	156	71	38,260.1	27,038.2	70.7	6.35	5.94	12,704	6,052.7	3,513.4	58.0	49,776
Apr-Jun 98	2,476	2,356	120	49	38,332.7	29,533.7	77.0	6.46	6.15	13,676	6,102.8	3,745.5	61.4	51,264
Jul-Sep 98	1,928	2,204	-276	-224	32,406.3	24,295.8	75.0	5.95	6.80	11,148	5,107.4	3,058.6	59.9	50,654
Oct-Dec 98	2,212	2,404	-192	-181	37,947.0	26,534.3	69.9	5.83	6.34					50,565
Jan-Mar 99	2,281	2,295	-14	-29	37,041.3	26,271.8	70.9	6.16	6.20					
Southwest														
Jul-Sep 97	997	845	152	93	18,494.3	12,176.9	65.8	5.39	4.57	13,019	2,362.1	1,274.1	53.9	24,273
Oct-Dec 97	975	847	128	81	18,501.4	11,654.2	63.0	5.27	4.58	12,612	2,361.5	1,222.6	51.8	24,454
Jan-Mar 98	943	831	112	70	18,137.1	11,102.3	61.2	5.20	4.58	11,849	2,304.2	1,161.6	50.4	24,573
Apr-Jun 98	1,079	870	209	133	18,849.6	13,236.7	70.2	5.72	4.62	13,766	2,394.0	1,378.0	57.6	24,807
Jul-Sep 98	1,095	891	204	130	19,762.1	13,620.3	68.9	5.54	4.51	13,681	2,519.0	1,420.4	56.4	25,428
Oct-Dec 98	1,047	888	159	100	19,763.0	12,603.4	63.8	5.30	4.49	13,291				25,844
Jan-Mar 99	1,076	909	167	96	19,944.0	12,949.2	64.9	5.40	4.56	12,934				
TWA														
Jul-Sep 97	908	845	64	6	15,922.4	11,447.0	71.9	5.70	5.31	6,324	2,209.2	1,284.2	58.1	22,539
Oct-Dec 97	813	812	1	-31	14,348.8	9,570.2	66.7	5.67	5.66	5,743	1,966.4	1,098.0	55.8	22,322
Jan-Mar 98	765	834	-69	-56	13,626.4	9,276.3	68.1	5.61	6.12	5,629	1,879.7	1,046.5	55.7	22,198
Apr-Jun 98	884	838	46	19	14,142.2	10,787.3	76.3	6.25	5.93	6,417	1,979.0	1,186.2	59.9	22,147
Jul-Sep 98	863	839	24	-5	14,293.8	10,531.3	73.7	6.04	5.87	6,273	1,999.7	1,150.0	57.5	21,848
Oct-Dec 98	747	813	-66	-79	13,452.4	8,731.6	64.9	5.55	6.04					21,500
Jan-Mar 99	764	802	-38	-22	13,352.4	9,205.2	68.9	5.72	6.01					
United														
Jul-Sep 97	4,640	4,077	563	579	71,375.4	53,721.0	75.3	6.50	5.71	22,641	10,566.8	6,561.1	62.1	90,324
Oct-Dec 97	4,235	4,144	91	23	68,364.7	47,419.6	69.4	6.19	6.06	20,608	10,269.1	6,023.6	58.7	91,721
Jan-Mar 98	4,055	3,932	123	61	66,393.3	44,613.0	67.2	6.11	5.92	19,316	9,987.5	5,589.7	56.0	92,581
Apr-Jun 98	4,442	3,972	470	282	69,101.7	50,152.2	72.6	6.43	5.75	21,935	10,453.0	6,202.6	59.3	94,064
Jul-Sep 98	4,783	4,088	695	425	73,913.5	56,283.7	76.1	6.47	5.53	23,933	11,255.3	6,847.4	60.8	94,270
Oct-Dec 98	4,281	4,090	191	54	70,620.9	49,484.4	70.1	6.06	5.79					94,550
Jan-Mar 99	4,160	4,014	146	78	67,994.5	46,899.8	69.0	6.12	5.90					
US Airways														
Jul-Sep 97	2,115	2,032	83	187	24,070.3	17,668.5	73.4	8.19	7.83	15,080	3,245.5	1,918.0	59.1	42,159
Oct-Dec 97	2,085	2,015	70	479	22,662.2	15,800.1	69.7	9.20	8.89	14,178	3,066.2	1,733.2	56.5	40,865
Jan-Mar 98	2,063	1,871	192	98	22,102.1	15,257.8	69.0	9.33	8.47	13,308	2,993.8	1,669.2	55.8	40,974
Apr-Jun 98	2,297	1,923	374	194	22,818.3	17,567.1	77.0	10.07	8.43	15,302	3,107.6	1,895.9	61.0	40,846
Jul-Sep 98	2,208	1,938	270	142	23,267.3	17,639.5	75.8	9.49	8.33	15,290	3,166.1	1,898.2	60.0	40,660
Oct-Dec 98	2,121	1,943	178	104	23,318.8	16,112.3	69.1	9.10	8.33					40,540
Jan-Mar 99	2,072	1,983	89	46	22,745.8	15,405.8	67.7	9.11	8.72					
ANA														
Jul-Sep 97	3,928	3,829	99	50	39,702.7	25,742.0	64.8	9.89	9.65	20,730				
Oct-Dec 97	SIX MONTH FIGURES													
Jan-Mar 98	3,459	3,545	-86	-68	40,446.9	26,187.7	64.7	8.55	8.76	20,102				
Apr-Jun 98	SIX MONTH FIGURES													
Jul-Sep 98	3,399	3,355	44	73	42,415.9	27,404.4	64.6	8.01	7.91	21,449				
Oct-Dec 98														
Jan-Mar 99														
Cathay Pacific														
Jul-Sep 97	SIX MONTH FIGURES													
Oct-Dec 97	1,921	1,784	137	117	28,932.0	18,917.0	64.4	6.64	6.17	4,810	5,325.0	3,718.0	69.8	
Jan-Mar 98	SIX MONTH FIGURES													
Apr-Jun 98	1,677	1,682	-5	-20	28,928.0	19,237.0	66.5	5.80	5.81		5,208.0	3,481.0	66.8	
Jul-Sep 98	SIX MONTH FIGURES													
Oct-Dec 98	1,769	1,713	56	-45	31,367.0	21,173.0	67.5	5.64	5.46		5,649.0	3,847.0	68.1	
Jan-Mar 99														
JAL														
Jul-Sep 97	5,325	5,016	309	169	56,060.9	39,748.3	70.9	9.50	8.95	16,020	8,555.0	5,705.2	66.7	
Oct-Dec 97	SIX MONTH FIGURES													
Jan-Mar 98	4,279	4,344	-65	-911	56,514.7	39,012.2	69.0	7.57	7.69	15,344	8,570.8	5,628.5	65.7	
Apr-Jun 98	SIX MONTH FIGURES													
Jul-Sep 98	4,463	4,262	201	133	58,439.5	40,413.9	69.2	7.64	7.29	16,008	8,959.7	5,725.4	63.9	
Oct-Dec 98														
Jan-Mar 99														

Note: Figures may not add up due to rounding. 1 ASM = 1.6093 ASK. *Airline group only.

	Group revenue US$m	Group costs US$m	Group operating profit US$m	Group net profit US$m	Total ASK m	Total RPK m	Load factor %	Group rev. per total ASK Cents	Group costs per total ASK Cents	Total pax. 000s	Total ATK m	Total RTK m	Load factor %	Group employees
Korean Air														
Jul-Sep 97	TWELVE MONTH FIGURES													
Oct-Dec 97	3,029	2,774	255	-234	58,246.9	40,190.3	69.0	5.20	4.76	25,580		9,737.7		17,139
Jan-Mar 98														
Apr-Jun 98														
Jul-Sep 98														
Oct-Dec 98														
Jan-Mar 99														
Malaysian														
Jul-Sep 97														
Oct-Dec 97	TWELVE MONTH FIGURES													
Jan-Mar 98	2,208	2,289	-81	-81	42,294.0	28,698.0	67.9	5.22	5.41	15,117	6,411.0			
Apr-Jun 98	SIX MONTH FIGURES													
Jul-Sep 98	860	958	-98	-11			57.2							
Oct-Dec 98														
Jan-Mar 99														
Singapore														
Jul-Sep 97	2,549	2,171	379	402	38,125.4	28,216.7	74.0	6.69	5.69	6,135	7,231.9	5,091.5	70.4	27,777
Oct-Dec 97	SIX MONTH FIGURES													
Jan-Mar 98	2,336	2,080	256	258	39,093.6	26,224.3	67.1	5.98	5.32	5,822	7,303.0	4,951.5	67.8	
Apr-Jun 98	SIX MONTH FIGURES													
Jul-Sep 98	2,232	2,013	219	278	41,466.2	29,456.2	71.0	5.38	4.86	6,240	7,693.4	5,225.2	67.9	
Oct-Dec 98														
Jan-Mar 99														
Thai Airways														
Jul-Sep 97	697	672	25	-1,050	11,462.0	7,668.0	66.9	6.08	5.86	3,500	1,639.0			
Oct-Dec 97	656	649	7	-661	12,144.0	7,715.0	63.5	5.40	5.34	3,800	1,712.0			
Jan-Mar 98	631	558	73	610	12,211.0	8,522.0	69.8	5.17	4.57	4,000	1,715.0			
Apr-Jun 98	586	583	3	-121	12,084.0	7,963.0	65.9	4.84	4.82		1,700.0			
Jul-Sep 98	629	584	45	176	12,118.0	8,769.0	72.4	5.19	4.82					
Oct-Dec 98	727	647	80	170	12,599.0	9,195.0	73.0	5.77	5.14					
Jan-Mar 99														
Air France														
Jul-Sep 97	5,224	4,850	374	297			76.1							
Oct-Dec 97	SIX MONTH FIGURES													
Jan-Mar 98	5,126	5,079	47	18										
Apr-Jun 98	SIX MONTH FIGURES													
Jul-Sep 98	4,982			224			76.5							
Oct-Dec 98														
Jan-Mar 99														
Alitalia														
Jul-Sep 97	TWELVE MONTH FIGURES													
Oct-Dec 97	5,083	4,878	205	161	50,171.4	35,992.3	71.7	10.13	9.72	24,552				18,676
Jan-Mar 98														
Apr-Jun 98														
Jul-Sep 98														
Oct-Dec 98														
Jan-Mar 99														
BA														
Jul-Sep 97	3,646	3,319	327	244	40,909.0	30,884.0	75.5	8.91	8.11	11,194	5,711.0	4,098.0	71.8	61,321
Oct-Dec 97	3,580	3,436	144	110	40,059.0	26,929.0	67.2	8.94	8.58	9,837	5,618.0	3,791.0	67.5	61,144
Jan-Mar 98	3,335	3,210	125	119	39,256.0	26,476.0	67.4	8.50	8.18	9,311	5,485.0	3,642.0	66.4	60,770
Apr-Jun 98	3,783	3,497	286	217	44,030.0	31,135.0	70.7	8.59	7.94	11,409	6,174.0	4,157.0	67.3	62,938
Jul-Sep 98	4,034	3,601	433	357	46,792.0	35,543.0	76.0	8.62	7.70	12,608	6,533.0	4,630.0	70.9	64,106
Oct-Dec 98	3,585	3,431	154	-114	44,454.0	29,736.0	66.9	8.06	7.72	10,747	6,277.0	4,111.0	65.5	64,608
Jan-Mar 99														
Iberia														
Jul-Sep 97	TWELVE MONTH FIGURES													
Oct-Dec 97	4,168	3,900	268	126*	37,797.6	27,679.2	73.2	11.03	10.32	15,432				
Jan-Mar 98														
Apr-Jun 98														
Jul-Sep 98	TWELVE MONTH FIGURES													
Oct-Dec 98					45,515.2	32,520.9	71.5			21,753				
Jan-Mar 99														
KLM														
Jul-Sep 97	1,842	1,592	250	438	18,798.0	15,736.0	83.7	9.80	8.47		3,231.0	2,587.0	80.1	34,928
Oct-Dec 97	1,630	1,570	60	23	18,096.0	13,555.0	74.9	9.01	8.68		3,114.0	2,414.0	77.5	35,092
Jan-Mar 98	1,538	1,568	-30	528	17,598.0	13,240.0	75.2	8.74	8.91		2,981.0	2,250.0	75.5	34,953
Apr-Jun 98	1,702	1,572	130	105	18,600.0	14,290.0	76.8	9.15	8.45		3,177.0	2,365.0	74.4	35,666
Jul-Sep 98	1,865	1,675	190	121	19,363.0	15,984.0	82.6	9.63	8.65		3,359.0	2,583.0	76.9	33,586
Oct-Dec 98	1,673	1,661	12	-15	18,476.0	13,767.0	74.5	9.05	8.99		3,214.0	2,415.0	75.1	33,761
Jan-Mar 99														
Lufthansa* **														
Jul-Sep 97	3,721	3,418	303	321*	33,739.0	26,410.0	78.3	11.03	10.13	12,807	5,787.0	4,298.0	74.3	58,178
Oct-Dec 97	3,989	3,566	423	384*	30,209.0	21,691.0	71.8	13.20	11.80	10,839	5,457.0	3,919.0	71.8	59,630
Jan-Mar 98	2,902	2,860	42	223	23,742.0	16,236.0	68.4	12.22	12.05	8,778	4,618.0	3,171.0	68.7	54,849
Apr-Jun 98	3,507	3,081	426	289	26,132.0	19,489.0	74.6	13.42	11.79	10,631	5,078.0	3,575.0	70.4	54,556
Jul-Sep 98	3,528	3,167	361	198	26,929.0	20,681.0	76.8	13.10	11.76	11,198	5,231.0	3,748.0	71.6	54,695
Oct-Dec 98					25,530.0	18,259.0	71.5			9,819	5,204.0	3,676.0	70.6	
Jan-Mar 99					25,445.0	17,942.0	70.5			9,658	4,972.0	3,435.0	69.1	
SAS														
Jul-Sep 97	1,244	1,093	151	83*	8,084.0	5,598.0	69.2	15.39	13.52	5,325				24,168
Oct-Dec 97	1,334	1,204	130	63*	7,771.0	4,940.0	63.6	17.17	15.49	5,211				28,716
Jan-Mar 98	1,184	1,077	106	76*	7,761.0	4,628.0	59.6	15.25	13.88	4,863				24,722
Apr-Jun 98	1,323	1,149	174	107*	7,546.0	5,260.0	69.7	17.53	15.23	5,449				25,174
Jul-Sep 98	1,283	1,152	131	127*	8,283.0	5,843.0	70.5	15.49	13.91	5,714				26,553
Oct-Dec 98	1,368	1,266	102	46*	8,116.0	5,089.0	62.7	16.86	15.60	5,431				27,071
Jan-Mar 99														
Swissair**														
Jul-Sep 97	SIX MONTH FIGURES													
Oct-Dec 97	2,084	1,946	138	147	18,934.8	13,770.8	72.7	11.01	10.28	6,352	3,536.4	2,538.1	71.8	10,132
Jan-Mar 98	SIX MONTH FIGURES													
Apr-Jun 98	1,907	1,780	127	86	18,983.8	13,138.7	70.5	10.05	9.38					9,756
Jul-Sep 98	SIX MONTH FIGURES													
Oct-Dec 98	2,187	2,070	117	165										10,396
Jan-Mar 99														

Note: Figures may not add up due to rounding. 1 ASM = 1.6093 ASK. *Pre-tax. **SAirLines' figures apart from net profit, which is SAirGroup. ***Excludes Condor from 1998 onwards.

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