

Aviation Strategy

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Lame duck competition

At the edge of a recession, the leading carriers should be getting more concerned about those pesky competitors who are going to make life more difficult in a downturn - the lame duck airlines.

In the US the lame ducks are currently TWA and Northwest, Majors that are not likely to disappear but whose main strategy will be to survive through maximising short-term cash inflows - and this means focusing solely on price to capture traffic. In Europe the lame ducks used to rely on state aid but this time around they will have either turned into commercially viable companies or, more likely, will emulate the US strategy.

As it is practically impossible to take over the lame ducks, for financial and union reasons, the leading Majors are continuing with their consolidation strategies in other directions. But the logic behind some of the recent moves is not at all clear.

For instance, American is in the process of completing its purchase of Reno Air, a Nevada-based low-cost carrier. American's policy seems simply to be: drop the separate brand, integrate the airline into the mainline operations, gain a small increase in market share and remove one low-cost airline. Reno Air will definitely not be used as a base for American to develop a low-cost subsidiary.

Back in the late 1980s American bought out and quickly assimilated AirCal in an attempt to boost its presence in the California market. In the event no discernible synergies were achieved and American's performance on the west coast deteriorated.

Meanwhile, America West is being pursued by United. This move makes more strategic sense - Phoenix-based AmWest has little network overlap with United, it isn't a member of any of the global alliances (although it is the ninth largest carrier in the US) and there is fleet communality. It does, however, seem odd that one of the reasons quoted for United's interest is that it would immediately obtain the aircraft needed for a major expansion at its own Washington Dulles hub - this at a time when oversupply threatens the domestic market.

In any case it is highly unlikely that the United bid for AmWest will succeed as Continental has the right of first refusal to match offers for the 49% of AmWest shares owned by Texas Pacific. The main effect of United's move might just be to force Continental to pay out cash to Texas Pacific, which ironically is controlled by David Bonderman, a Continental board member.

Returning to Europe, a variation on the consolidation game is for the successful Majors to take a stake in formerly state-aided but now privatising flag-carriers - British Airways will take 8-9% of Iberia when it is floated. A US carrier may eventually get a small stake in Air France, and the Greek government is very keen on finding a foreign airline to invest in and help manage Olympic.

The problem is that nobody seems very sure about what these minority stakes mean. How much control will the investing airlines have in key strategic areas? And will they really be allowed to implement anti-lame duck strategies with their new partners?

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Euro-liberalisation: the commissioners' views

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Is the glass of liberalisation in Europe half-full or half-empty? It depends on which European commissioner you talk to. Karel Van Miert, who is commissioner of the competition directorate (DG4), seems more than a little irritated with the way the airlines are behaving; he seems to consider that liberalisation has been a great disappointment. Transport commissioner Neil Kinnock (DG7), on the other hand, is well pleased with the flock of new entrants and the spread of new, lower fares around the continent. For him, plainly, liberalisation has been pretty successful so far, and he looks forward to the next stage in the process - a true bilateral "open skies" deal between the EU and the US, rather than the clutch of lop-sided national bilaterals the US has rammed through on what Mr Kinnock sees as its own terms.

First, Mr Van Miert's moans. It seems just about every time the commissioner gets on a plane from Brussels to visit another European capital he finds something wanting. Not long before Christmas he was irritated to find his Sabena flight back from Madrid cancelled because of technical problems; worse, the other airline on the route, Iberia, would not honour his ticket and accept him without charge on its next available flight.

Thus was the competition commissioner experiencing one of the growing irritations of air travel today. Interlining, in this age of creeping liberalisation, is not what it was: airlines no longer accept each other's tickets at face value. This might be fair enough where there is genuine price competition. What irks passengers, especially when they are as important or knowledgeable as the EU's competition commissioner, is that the loss of easy transfer from airline to airline can occur even on a route such as Brussels-Madrid where there are only two operators, co-ordinated fares and really no price competition. He asks whether it is reasonable to allow price consultation if interlining is no longer working as it should. In other words, why should IATA route consultation be

free from antitrust scrutiny if it no longer offers any of the countervailing benefits, such as interlining?

Experiences such as this, plus a growing pile of complaints, are going to lead to an inquiry by Mr Van Miert's department, probably starting in June, into how air liberalisation is working. In particular, he says he wants to concentrate on how codesharing and alliances are working in practice within the EU market.

Although not in principle opposed to alliances, he says he is concerned enough about how they are working to want them formally investigated as to how they affect the internal EU market. All this must seem a bit rich to the likes of British Airways, Lufthansa and others whose international alliances are already under scrutiny.

Other worries

Mr Van Miert has other concerns about the behaviour of the big airlines. He worries about their use of predatory pricing to shut out new entrants. He says he was particularly disappointed when, as a condition for Brussels to approve their alliance, Lufthansa and SAS had to give up 192 slots, mostly at Frankfurt. The problem was that no other airlines came forward to take them up; he implies this is because competitors were scared of getting involved in a running battle with the incumbent airlines on their home patch.

Despite his catalogue of deficiencies, even Mr Van Miert concedes that liberalisation has brought increased competition for non time-sensitive travellers. Those passengers prepared to accept weekend stay-overs or other conditions on a non-flexible ticket, he concedes, have seen a growth of competition to serve them.

For the transport commissioner Neil Kinnock, Mr Van Miert's obsession with the travails of business-class passengers seems a little quaint and misguided. Mr Kinnock

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rejoices in the 20-odd start-up airlines that have survived as independents since liberalisation started for real in 1993. He points out that 95% of European air travel is now done on the basis of fares lower than the IATA-approved set fares. Before liberalisation, the figure would have been only 50%, and entirely a result of charter holiday flights.

He regards Mr Van Miert's narrow fixation on the high fares suffered by only a tiny sliver of the market as misleading, given the overall picture. "Liberalisation has been a success," he declares.

Like Mr Van Miert, Mr Kinnock would like to see more new entrants coming into the routes where there is limited competition. But he thinks you have to be realistic. "The problem is the low volume routes," he says. To get competition in from a third party (in addition to the two national flag carriers) needs attractive volumes. So it is really market demand that attracts competition, which in turn causes lower prices. Mr Kinnock accepts that there are problems not only with low volume "thin" routes but with time-sensitive and business class fares, cited by his colleague.

Although he finds it tempting to consider residual powers enabling the Commission to intervene, he prefers to leave it to market forces to alter the situation. Another development he would like to see is airlines making more use of freedoms they have enjoyed since liberalisation, such as fifth freedoms and consecutive and full cabotage.

Unlike his competition colleague, Mr Kinnock is not worried about alliances,

accepting that in a globally regulated market such as aviation they are a second-best way of achieving rationalisation and global reach. He would just like to see European airlines playing a bigger global role on the back of their liberalised internal market.

One way for that to happen would be for the national governments to give the Commission a wide-ranging mandate to negotiate with the Americans. He thinks the existing national "open skies" deals favour the Americans too much, giving them powers to operate within the EU, which sooner or later they will use to mop up their own spare capacity. For European airlines to become global players they need, in Mr Kinnock's eyes, freedom to fly to destinations across and beyond the US, rather than just into gateways.

Whichever of these Brussels views of aviation is correct is probably largely irrelevant. The whole Commission comes up for renewal at the end of the year (having just survived a censorship motion by the European Parliament). If the next incumbents of transport and competition take a different view then international airline alliances in particular and American airlines in general can breathe a sigh of relief.

But the permanent officials who have done so much to develop the clout of Mr Van Miert in competition matters (although some appear unnecessarily intrusive) and the clear policies of Mr Kinnock across his transport beat (although many have yet to be implemented) will still be there and eager to stir things up.

1,000+ deliveries as markets turn down

For all the talk about the greater maturity of the global airline business as the millennium ends, something distressingly familiar is taking place in 1999 - jet aircraft deliveries are peaking at exactly the same time as traffic is faltering and yields are falling.

In fact, 1999 will almost certainly be the peak year for deliveries, probably exceeding

the 1,000 unit mark for the first time. Boeing has announced that it expects to deliver about 620 aircraft this year - up from 563 in 1998 - while Airbus is predicting 290 deliveries this year compared with 229 in 1998. Figures for the other manufacturers are not as easily available, but with the boom in regional jet demand, deliveries of around 150 units is conceivable. This brings the

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WHERE THE CAPACITY IS GOING (Number of seats scheduled to be delivered in 1999 as percentage of 1998 passenger fleet)				
	North			
	America	Europe	Asia	Total
Regional jets	17%	8%	0%	11%
150-seaters	12%	14%	14%	11%
300-seaters	15%	15%	12%	14%
747s	12%	7%	3%	6%
TOTAL	13%	12%	9%	12%

total deliveries expected in 1999 to about 1,050.

Most of the industry analysts are in the same region. For example, Chris Avery of Paribas is estimating 915 deliveries for this year, but only for jets with greater than 70 seats. Ed Greenslet's (ESG's) current, but soon to be updated, forecast is for 1,000 units for all jet types. Incidentally, the next year in which ESG forecasts 1,000-plus deliveries is 2008.

Where's it going?

So what type of capacity is going where? *Aviation Strategy* has provided a rough guideline in the table above. We have identified, as far as is possible, sched-

uled deliveries to airlines in the three main areas of the world, then compared the seats to be delivered with the 1998 passenger fleet. Note that no deletions have been factored in.

The following possible trends can be identified. There is going to be a surge in capacity in the North American regional jet supply as airlines continue to switch from turboprops to jets. Demand and profits have been very healthy in this sector, and it is probable that this level of capacity increase can be absorbed. However, Europe is a cycle behind North America in this sector, and there is currently little interest in the Asia/Pacific region.

In the 150-seater sector most of the US Majors and a significant number of the European flag-carriers are embarking on fleet renewal programmes with new generation 737s and the A320 family, while the European new entrants are starting to account for a sizeable proportion of new capacity. The worrying figure is the possible capacity increase in the Asian fleet, a figure that has been swollen by deferrals from 1998.

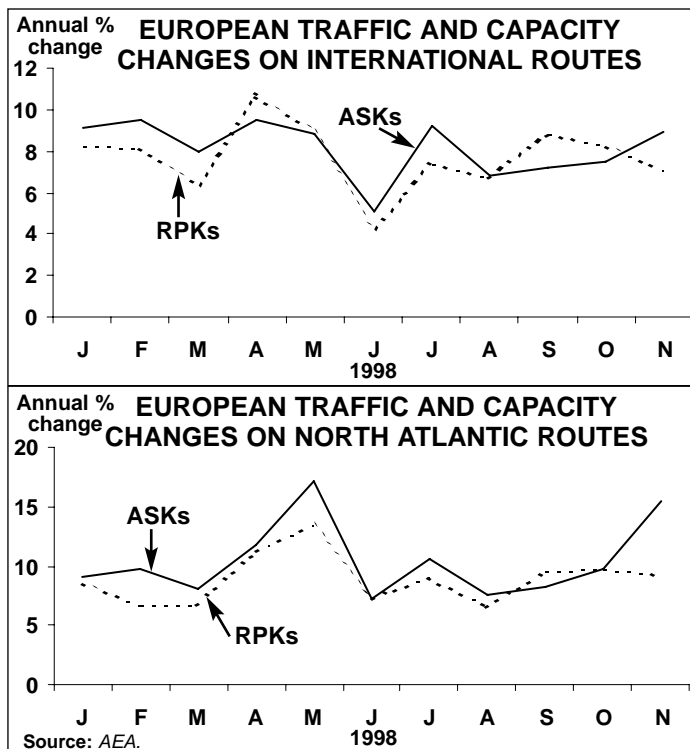
With domestic and intra-regional traffic still very depressed, it is inevitable that some of this capacity will be recycled to the West, potentially disturbing market balance in the same way as the large jet sector is being impacted.

At least one of the US Majors, United, has a plan to cope with this scenario - the accelerated retirement of older Chapter 2 types. The problem is that reduction in capacity by one airline has little effect on the overall market: in a recession the level of load factors and yields will increasingly be determined by the weakest carriers - those that operate depreciated but hushkitted equipment.

Great faith is put in the capacity-reducing effect of the implementation of Chapter 2 non-operation rules between 2000 and 2003, but the level of scrapping remains disconcertingly modest.

The never-ending cycle

Serious increases in US and European capacity in the A340/A330/777 sector are



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also evident as airlines continue to downsize from 747 types.

Again one can see the tyranny of the aviation cycle. These types have been presented as the key to enhancing airline profitability by allowing airlines to effectively attack the business sector. They enable airlines to capture business travel by increasing frequencies over 747-type operations and they are also supposed to allow airlines to push up yield as they are typically configured with a higher percentage of business-class seats than the 747 (or, to put it another way, airlines have fewer economy seats to bother with).

However, these aircraft are going to be delivered en masse at a time when the lucrative business travel market - having been very strong for some years - is starting to weaken.

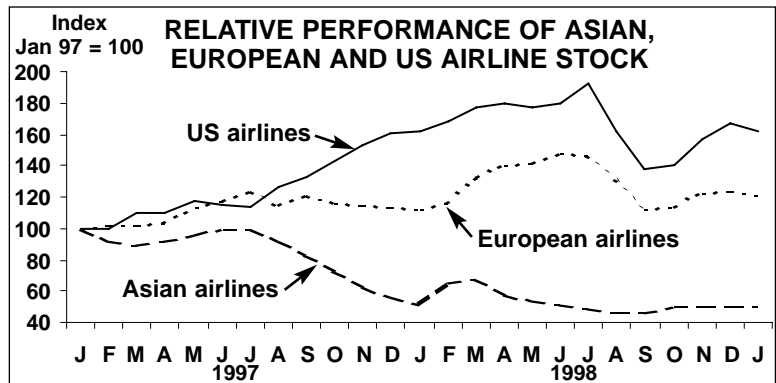
Evidence of a deterioration in the market balance is mounting. The AEA figures for November, for example, show a 1.1 percentage point fall in overall load factors, but with really alarming developments on the North Atlantic. Here traffic grew by a very respectable 9.3% but capacity surged by 15.4% as aircraft were diverted from Asian routes.

If it were just a case of demand/supply imbalance the airlines might not be overly concerned. They now have some measure of control over market capacity via their global alliance strategies and the mega-orders placed with sole suppliers. This allows the airlines to alter the timing of deliveries if necessary.

Yield trouble

What is really distressing is the erosion in yield. This is becoming apparent in the US market (see page 8) but appears to be particularly painful at British Airways, whose share price has been battered largely because of fears over falls in yield. In its third quarter (October-December 1998) the airline reported that its premium traffic had declined by 2.9%, although non-premium traffic growth was still at 13.6%.

The implication is that, also taking into account adverse currency movements,



British Airways' passenger yield will show a decline of at least 6% for the year. Yield management systems, which a year ago were regarded as nearly omnipotent, now look fallible.

British Airways' experience has been attributed to alliance-based competition taking off - i.e. to Star stealing business passengers. But the anecdotal evidence suggests that the most important influence has simply been a change in business travel demand.

It is now becoming very important for the marketing departments of airlines to assess as accurately as possible how much premium revenue is being lost as a result of fewer trips undertaken, of greater resistance to fares that have been ruthlessly pushed up in recent years and through downgrading to economy class. At present the only visible response of the airlines most exposed to the danger of premium traffic erosion has been to reduce the restrictions on business tickets.

Perhaps the group of people most keenly attuned to changes in corporate travel patterns are the airline stockmarket analysts themselves, whose employers - the investment banks - are among the most extensive users of business-class seats but are also the most ruthless at cutting costs if they perceive a change in business conditions.

As the graph above shows, European airlines stocks remain in the slump they fell into last summer, while US stocks, having staged a recovery in the second half of 1998, have turned down again. It is still not polite to talk about Asian airline stocks.

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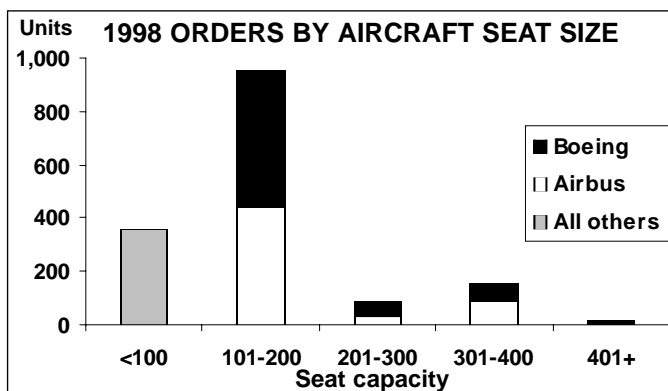
Quality of jet orders, not quantity, is key indicator

A *Aviation Strategy* concludes its analysis of jet orders in 1998 (see January 1999 issue) by taking a closer look at the big two manufacturers - Boeing and Airbus.

As usual, both Boeing and Airbus managed to unveil some last-minute orders (many previously "unannounced") as 1998 came to a close in order to bump up year-end figures. But what was surprising was the scale of these last-gasp orders: Airbus unveiled an impressive 47 in December, but Boeing trumped them by announcing a staggering 128 orders in the last month of 1998, 64 of them on December 31st alone!

A cynical observer might say that these orders were just part of the ongoing market share war between Boeing and Airbus (see *Aviation Strategy*, September 1998), and not all of them may be as firm as they seem. Nevertheless, the net effect was to bump Airbus's total orders for 1998 to 556 and Boeing's to 656.

In terms of orders by aircraft seat size, the 101-200 seat category accounted for 61% of all jet orders in 1998 (see graph, below), with the 737 family outselling the A320 family by 516 aircraft to 437. In the other categories, Boeing maintained its grip on 201-300 seats (the 767 and MD-11 outgunning the A300), while Airbus won the 301-400 seat battle (A330 and A340 versus the 777). Interestingly, in the top category - 401+ seats, where Boeing has a monopoly



(for the moment) - there were just 14 orders for the 747.

A pyrrhic victory?

However, although Boeing kept ahead of Airbus in terms of orders last year (and in deliveries, by 563 aircraft to Airbus's 229), by most other criteria Boeing had a dreadful 1998. The past months have been dominated by the decline of Boeing's share price, following the manufacturer's profit warning for 1999 (a 25% reduction on previous estimates) and the forecast that in the year 2000 aircraft operating margins will be in the range 1-3% (compared with 10% earlier this decade).

In addition, Boeing announced a downward revision of production rates across its entire range of aircraft. For example, the 747 - which has been a cash cow for Boeing in recent times - will face a reduction in production from 3.5/month to just 1/month in early 2000. Consequently, Boeing stated that it is to cut 20,000 jobs over and above the 24,000 job losses previously announced, a total 20% reduction in the workforce.

Boeing placed blame for the bad news squarely on the Asian crisis. Some carriers have cancelled orders, while others have asked Boeing for a deferment of their deliveries beyond 2000.

Quantity versus quality

The fall-out from the Asian (and now possibly South American) crisis will be key to the big two manufacturers' fortunes in the immediate future. And that's because some aircraft orders are more "firm" than others (i.e. those from Asia and South America, which are much more likely to be cancelled or deferred).

The table (right) shows the difference between Boeing and Airbus in respect of their exposures to the Asia/Pacific and South American markets.

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Boeing has clearly outsold Airbus in Asia, particularly at the long-haul end of the market, and this exposure (or perhaps over-exposure) is now the cause of many of Boeing's problems. With over half of the backlog for 747 aircraft and 40% of 777 orders in Asia, any further deterioration of this market would be even more painful for Boeing. As airlines downsize their networks and enter global alliance structures this may put further pressure on these airlines to review their long-haul orderbook.

With the benefit of hindsight it is easy to criticise Boeing for carrying too much exposure in Asia. But until the crisis broke, nearly all forecasters predicted Asia would continue to be the primary engine of global traffic growth and therefore Boeing's fight to keep Airbus out of the market was justified.

Nevertheless it is the practice of banks, operating lessors and other practitioners in the aviation industry to try and limit their exposure to individual airlines or markets and to try and spread risk. If one criticism is justified it is that Boeing has not been successful at spreading its risk.

So if Boeing has problems, has Airbus escaped entirely? Airbus's exposure in Asia is more evenly spread between its long-haul and short-haul products, and arguably the orderbook is of a slightly higher quality than that of Boeing. For example, the primary orders for the A340 are with Singapore Airlines (eight aircraft) and with All Nippon (five aircraft), carriers that are among the most robust in the region.

While Boeing has fought an aggressive sales campaign in Asia, Airbus has fought hard to break into South America. Most notable of Airbus's successes in South America last year were orders for a total of 57 A319s and 33 A320s from LanChile, TACA International and TAM of Brazil. However, Boeing is fighting back and on January 19th 1999 it surprised Airbus by securing the sale of eight 737-700s to Panama's COPA.

Yet Airbus has a backlog nearly four times larger than Boeing's in the continent. Some forecasters predict that South America is another Asia crisis waiting to

	BOEING AND AIRBUS EXPOSURE TO ASIA/PACIFIC AND SOUTH AMERICAN MARKETS			
	Asia/Pacific		South America	
	Aircraft backlog	% of total backlog	Aircraft backlog	% of total backlog
Boeing				
737	104	10%	17	2%
747	56	52%	0	0%
757	6	5%	1	1%
767	13	10%	8	6%
777	103	40%	6	2%
Total	282	17%	32	2%
Airbus				
A300/A310	5	10%	0	0
A320 family	70	7%	105	11
A330	23	14%	3	2
A340	10	9%	0	0
Total	108	8%	108	8%

happen, particularly given the recent crash in Brazil. But even if this does happen, the Airbus exposure is far more limited than Boeing's in Asia, and importantly the Airbus backlog is almost entirely A320 family aircraft, which arguably are more easily re-marketed than long-haul aircraft.

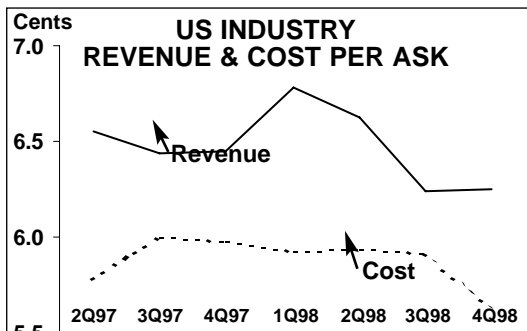
The Asian crisis and Boeing's woes raise some important issues.

- As the Asia/Pacific market has been the mainstay of the 747 programme in recent years, if the fall-off in traffic proves to be a permanent feature, the question arises how many markets remain that have the right characteristics to support the 747?
- If Asian markets follow the transatlantic trend in downsizing from 747s to the big twins, then does a market really exist for either the 747-X or the A3XX?
- If Airbus officials believe that the Asian markets will recover, does Airbus take advantage of Boeing's latest predicament and launch the A3XX? Can it afford to take such a gamble both financially and with impending market flotation?
- One of the industry mantras has been that the next recession will be less severe than previous recessions as a result of the manufacturers being able more easily to match demand to supply than ever before. The troubles that Boeing has experienced in firstly cranking up production and now turning off the tap seem to provide evidence against this assumption.

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Yield pressure building in US industry



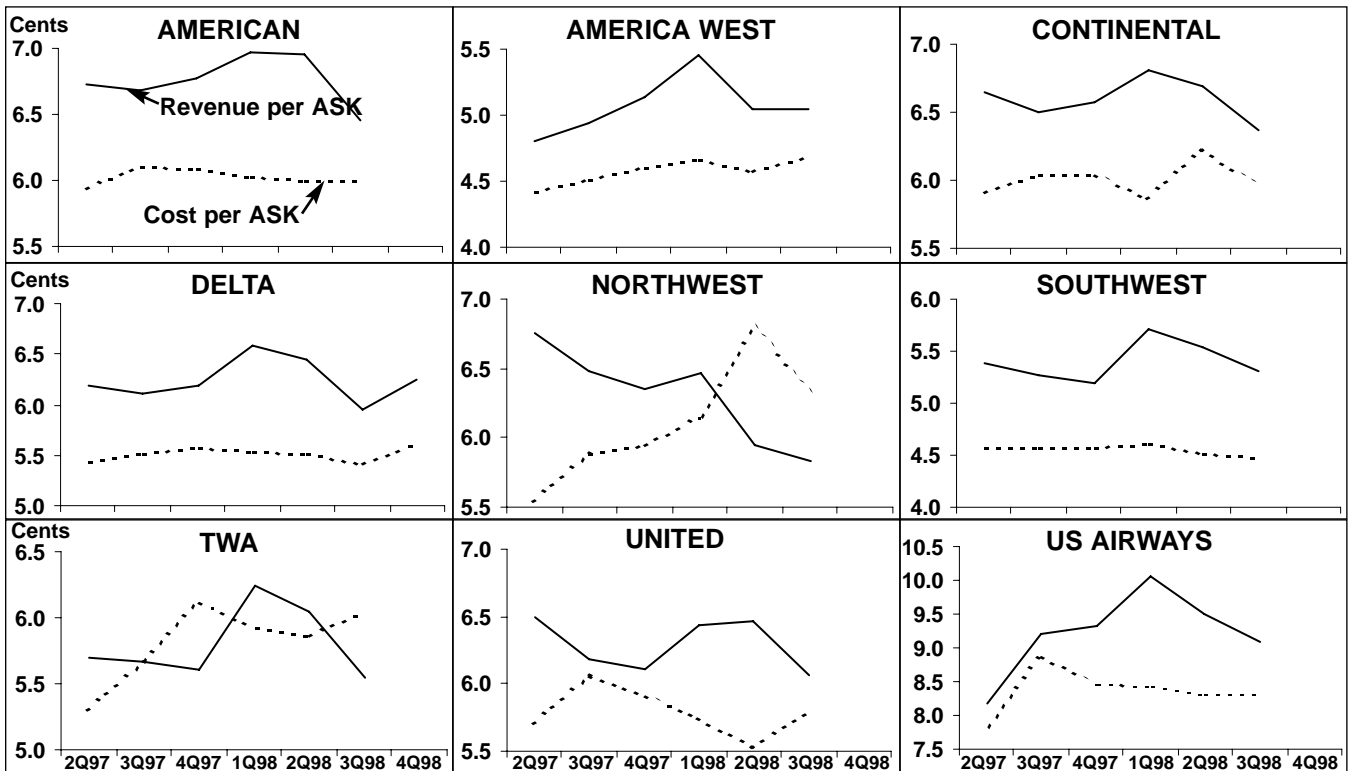
Fourth-quarter 1998 results for the eight major airlines in the US (TWA results have yet to be announced) confirm that the industry has passed its cycle peak. Combined operating profit for the major airlines (except TWA) totalled \$1,116m in October-December 1998 - 19% down on the operating profit for 4Q1997. The fall in combined net profit for the eight reporting carriers was even greater - the total was \$539m

in 4Q 1998, compared with \$1,179m in October-December 1997.

A key factor in the fourth quarter was lower yields - particularly on international routes - and the gap between unit revenue and cost narrowed at all airlines. The exception was **Northwest**, which despite being the only major airline not to report a profit (unless TWA joins it) managed to reduce its losses in the fourth quarter. Nevertheless, Northwest's management estimated the 4Q costs of its September pilots' strike to be around \$300m.

The gap between industry unit revenue and cost reduced to 0.35 cents per ASK in the quarter, compared with a 0.45 cent gap in October-December 1997.

Overall industry ASKs (excluding TWA) for the fourth quarter of 1998 rose 3.0% compared with 4Q 1997, and with RPKs rising by 3.1% load factor increased by 0.1% to 68.8%.



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American: the right time to resume growth?

American Airlines is poised to start growing again this year after a long period of stagnation. But how will it be affected by the continued Asian crisis, overcapacity and fresh economic uncertainty in Latin America and growing labour cost pressures?

American is probably the most consistently profitable of the large US Majors (excluding Southwest). Except for a marginal operating loss in 1992, AMR Corp. reported positive operating results through the early 1990s recession. Although net losses added up to \$1.3bn in 1990-93, much of that was due to restructuring and other special items.

This was quite an achievement in the light of the disastrous 1992 "Value Pricing" strategy, lack of labour concessions, a five-day flight attendants' strike in 1993 and a long drawn-out dispute with the pilots that led to a "one-minute" strike in February 1997 in which president Clinton intervened.

But American was quick to adopt strategies to help it remain competitive. It improved fleet utilisation, focused expansion on the more profitable international routes and boosted frequencies in key domestic business markets. Instead of launching its own low-cost airline venture, it decided to strengthen its main hubs at Dallas Fort Worth, Chicago O'Hare and Miami, and eliminate secondary hubs like San Juan and Raleigh/Durham. It also implemented a cost-cutting programme that meant streamlining administrative functions, early retirement programmes, some lay-offs and elimination of loss-making routes.

These strategies facilitated strong and steady profit growth, though in 1994-96 the reported results were skewed by huge restructuring charges or special gains. The latest annual net earnings, \$985m for 1997 and \$1.3bn for 1998 - which included only minor special items - represented 5.4% and 6.8% profit margins respectively.

Much of the profit growth has been due to load factor improvements. Between 1993 and 1998 the passenger load factor leapt from

60.4% to 70.2%. In the same period yield crept up by just 1.6%, while unit costs surged from 8.25 to 9.25 cents per ASM - the second-highest after US Airways among the major carriers.

The earnings growth has been achieved against zero overall capacity growth. Last year American produced 3.5% fewer ASMs than in 1993. Over the past two years, capacity has crept up by just 0.7% and 0.9% respectively. American's management was determined to maintain a strategy of minimal growth even after the signing of the new five-year contract with APA in the spring of 1997, because the deal did not offer any cost savings (it gave the pilots pay increases and stock options).

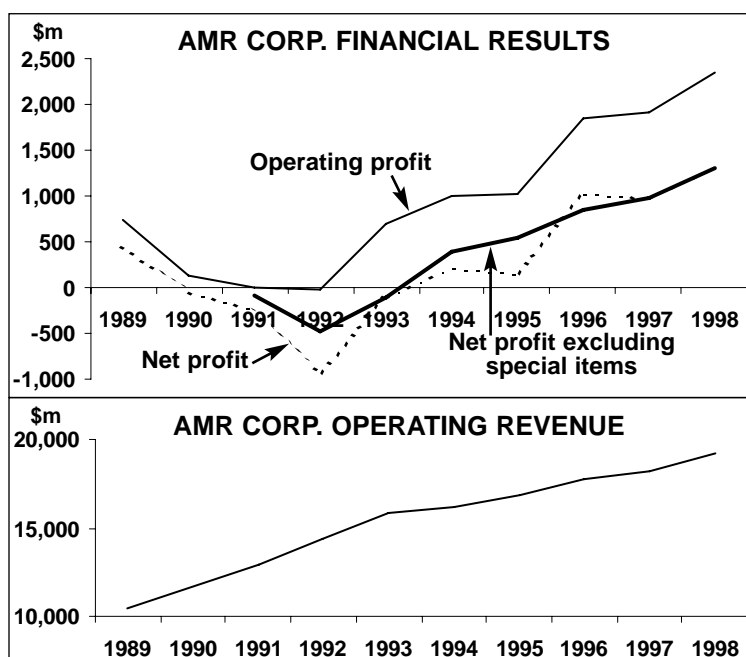
But the pilot deal was a watershed development in that it made it possible to start planning for the future. American immediately finalised an earlier \$6.5bn Boeing aircraft order to kick-start fleet renewal and facilitate future international expansion. It also began to repair its image - the biggest (ongoing) project has been spending \$400m to refurbish cabin interiors and provide new seats in all classes in virtually all of its fleet.

Over the past few years AMR has used its free cash flow to strengthen its balance sheet substantially. When raising the company's credit rating to investment grade level in August 1998, Moody's said that AMR had one of the lowest leverage ratios, adjusted for off-balance sheet liabilities, among the US major carriers.

AMERICAN FLEET PLANS			
	Current fleet	Orders (options)	Delivery/retirement schedule
727-200	78	0	To be retired by 2004
737-800	0	100 (400)	Delivery in 1999-2004
757-200	96	5 (38)	Delivery in 1999
767-200	8	0	
767-200ER	22	0	
767-300ER	45	4	Delivery in 1999
777-200ER	0	34 (38)	Delivery in 1999-2001
DC-10-10	13	0	9 to be retired in 1999
DC-10-30	5	0	
MD-11	11	0	To be retired by 2004
MD-80	260	0	
A300	35	0	
F-100	75	0	
TOTAL	648	143 (476)	

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Since 1997 AMR has also been returning cash to shareholders - after completing the initial two \$500m stock repurchase programmes by the end of September 1998, a third buyback programme of the same size was authorised in October. In June 1998 the company also completed a two-for-one stock split in the form of a stock dividend.

In September 1998 a decision was taken to sell the three AMR Global Services companies - AMR Services, AMR Combs (fixed-base operations) and TeleService Resources - in order to focus on the core airline and related technology businesses. Those three units earned \$451m revenues and \$40m profits in 1997. All found buyers in December 1998, which will mean special gains recorded in the current quarter.

This was one of the first major strategic moves by Donald J. Carty, who succeeded Robert Crandall as AMR's chairman/CEO when Crandall retired in May last year. The takeover was smooth as Carty had worked closely with Crandall as AMR's president since March 1995. Nevertheless, it brought to an end an era as Crandall had occupied the top post since 1985, was a larger-than-life personality and was credited for inventing concepts such as FFPs, hub-and-spoke systems and deep-discount fares.

Carty's reign has so far been characterised by a more relaxed, informal style, putting greater emphasis on improving labour relations

- probably exactly what American needs at this point. He has also stressed the importance of expanding the airline and developing partnerships and joint ventures.

Resumption of growth

After years of stagnation, American is now ready to start growing again - a process that will be facilitated by a surge in aircraft deliveries this year. However, in November the carrier scaled down its growth plans in response to a worsening global economic outlook. It will retire 10 more aircraft (DC-10-10s and 727s) in 1999 than the six envisaged earlier, which will save \$40m over three years in maintenance and modifications costs, and defer some international services. The move reduced this year's planned capacity growth from 6% to 3-4% (10% internationally and 2.5% domestically).

Altogether 45 new Boeing aircraft are scheduled for delivery in 1999, and the fleet is due to grow from 648 at the end of 1998 to 677 at the end of this year. But, like many other carriers, American says that its "flexible" fleet plan will allow it to retire larger numbers of older aircraft if necessary, rather than operate excess capacity.

The 1996 103-aircraft Boeing order, which established a 20-year special relationship with the manufacturer, and subsequent re-orders have added up to a current firm order total for 34 777-200ERs, due in 1999-2001, four and five 767-300ERs and 757-200s respectively, all due in 1999, and 100 737-800s, due in 1999-2004.

The long-range 777-200s, the first of which was due to arrive in January, will facilitate the retirement of the DC-10 fleet, increase capacity in key international markets and, significantly, allow non-stop operation on US-Asia routes of up to 8,000 miles. The MD-11 fleet is being phased out and sold to FedEx over the next five years. The 737-800s will allow the retirement of the 727-200 fleet by 2004 and provide for "modest growth".

Domestic strategic moves

Despite the fact that Northwest and Continental have begun domestic codesharing (in early January), the American-US Airways

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alliance, like the United-Delta combine, is now not likely to go beyond marketing and FFP co-operation. The two linked their FFPs and club facilities in the summer but appear to have forgotten about domestic codesharing. Neither liked the idea - or the thought of approaching their pilot unions - much in the first place. The combination of Delta's pilots refusing to even consider codesharing and the realisation that Washington would probably frown on the large-scale link-ups may have killed off the idea.

That said, the mere linking up of their FFPs is likely to produce substantial revenue benefits. American, whose AAdvantage programme is one of the most powerful FFPs in the world, now has access to US Airways' captive high-yield customer base in key East coast business markets.

Also, in recent months American has found new expansion and acquisition opportunities in the domestic marketplace. First, it is in the process of acquiring its FFP partner, low-cost carrier Reno Air for \$124m with the intention of eventually integrating Reno into its operations. The small carrier was worried about long-term survival, while the deal will help American strengthen its position on the West coast.

Second, in early December American and its regional affiliate American Eagle forged a marketing partnership with Alaska and its subsidiary Horizon, which hitherto had been firmly in the Northwest-Continental camp. At first it looked like Alaska had ditched its long-time partner Northwest, but since then they too have expanded their cooperation.

In the third strategic move, in December 1998 Eagle announced that it had agreed to buy commuter carrier Business Express from a Philadelphia-based investment partnership. This will strengthen AMR's position in the Northeast, which American must be monitoring very closely because of Southwest's planned expansion to New York and United's intention to boost its Washington Dulles operations. American has just introduced a daily Boston-New York (JFK) service and in January 1999 it announced plans to build a new \$1bn terminal at JFK.

American Eagle has steadily expanded its regional jet operations and load factors have been high. It ordered the 50-seat Embraer ERJ-145 in 1997, after American's pilots agreed that their lower-paid counterparts from the com-

muter affiliate could fly the regional jet. Eagle has so far ordered 50 ERJ-145s, of which about 20 have been delivered, and the first of 25 ordered 70-seat Canadair CRJ 700s will start arriving in 2001. Eagle will reach the APA-stipulated limit of 67 jets with 45 or more seats at the end of 2001, but beyond that the fleet plan is apparently flexible enough to permit growth. Eagle also recently ordered 75 37-seat ERJ-135s, which will start arriving in July.

International challenges

The fall in AMR's fourth-quarter earnings was blamed largely on weaker yields in international markets. While the Asian crisis has put a damper on Pacific expansion, Latin American markets have seen overcapacity and lower yields and face uncertain economic prospects. Transatlantic yields have also weakened, while alliance plans are delayed by regulators.

How will American tackle these challenges? After seven years of ambitious expansion, American rationalised its transatlantic network in the mid-1990s and has since then actually contracted a little in Europe, losing its position as the second-largest US carrier to United (Delta is the largest). Transatlantic operating profits rose steadily to \$219m or 11% of revenues in 1997, but evidently declined last year due to weaker yields.

Economic uncertainty will constrain growth in the short-term. This year's planned new services from Chicago to Amsterdam and Moscow have been deferred, but American is going ahead with Los Angeles-Paris and JFK-Frankfurt services this summer if it can get the slots. It is also bidding for Chicago-Rome rights under the expanded US carrier service provisions of the new US-Italy ASA.

One major frustration has been the delay in securing government approval for the transatlantic codeshare and marketing alliance with British Airways, which was announced way back in June 1996. When the latest round of official US-UK bilateral talks broke down in October, the US government delayed "indefinitely" a hearing on the antitrust immunity application.

While American and BA still hope for eventual government approval, in the short-term they are now pursuing alliance activities that do

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not require third-party approvals or antitrust immunity. Even before the latest regulatory setbacks, the airlines were talking about phasing in the alliance over 4-5 years, because the EU's conditions were increasingly seen as commercially unacceptable in the light of a possible slowing of demand growth.

Last year American began codesharing with Iberia on US-Spain and beyond-Madrid and intra-US routes and with Air Liberte on beyond-Paris sectors. It also expanded its longstanding codeshare relationship with British Midland and will begin codesharing with Finnair this year. American and British Airways are in the process of buying a joint 10% stake in Iberia.

Otherwise, the Iberia and Finnair relationships will be developed in the context of the global oneworld alliance, which was unveiled in September 1998 and also includes Canadian, Cathay Pacific, Qantas and effectively JAL (the latter has forged extensive codeshare deals with both American and BA).

Oneworld must be the ideal choice for American since it will give it access to the world's most lucrative business markets - Heathrow, Hong Kong and Tokyo, to complement its own high-yield markets out of New York and Chicago. Securing the Asian partners was especially valuable, as many of them had been courted by other alliances and because of American's desire to expand in Asia.

In 1997 American had a minute 4% share of the US carriers' total Pacific ASMs, and its Pacific routes accounted for just 2% of its total passenger revenues. It is now determined to become a bigger player with the help of new services facilitated by last year's US-Japan ASA, the introduction of the long-range 777 this

spring and codesharing relationships with Asian carriers.

To complement existing alliances with SIA, Qantas and China Airlines, last year American began codesharing with Asiana and China Eastern and plans to start codesharing with JAL and Air Pacific this year.

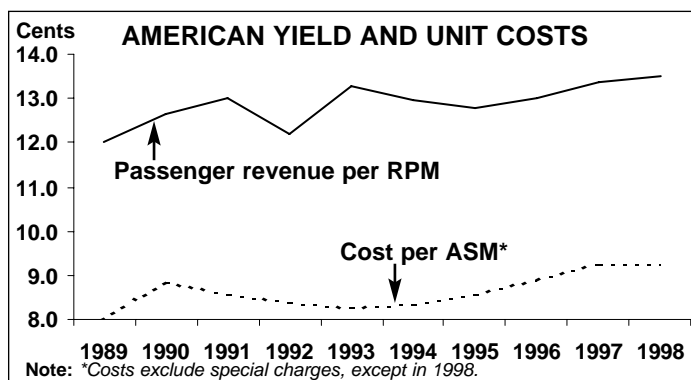
In mid-January American and JAL outlined an ambitious four-phase expansion plan, to be implemented in May-November this year, to codeshare on 76 international and 41 domestic routes in both countries. This will counter the recently-implemented United-ANA codeshare alliance and help retain presence in recession-hit transpacific and intra-Asia markets.

The new US-Japan ASA enabled American to start serving Tokyo from Chicago, Seattle and San Jose last May, to supplement the successful Dallas-Tokyo flights it has operated since 1987. In December 1998 it also launched a daily non-stop Dallas-Osaka service, its fifth route to Japan, hoping to attract good volumes of connecting traffic not just to eastern US cities but to Brazil and Peru.

In November American decided to defer its planned Boston-Tokyo and JFK-Tokyo services "due to lack of slots at Narita", though weaker demand or concern about overcapacity due to competitors' new services may have played a part. As the Asian economic situation is showing little improvement, American must be monitoring the situation very closely.

American's alliance strategy actually started in Latin America when, about four years ago, it found further growth hampered by regulators' concerns about its dominance in that region. Since late 1995 it has signed codeshare deals with BWIA, ALM, the TACA Group, Avianca, Bolivia's Aerosur, Brazil's TAM, LanChile and Venezuela's Aeropostal, as well as buying an equity stake in Aerolineas Argentinas.

But progress has not been easy. The BWIA and ALM applications were withdrawn due to strong opposition on market domination grounds. The TACA deal, which was instrumental in securing a US-Central America open skies ASA, took more than two years to gain government authorisation - it was finally approved in May 1998 and codesharing began the following month. The application for antitrust immunity with LanChile is still pending.



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On the positive side, the TAM application went through relatively painlessly (codesharing began in July) because of similar alliance applications from competitors, and on January 26 1999 American announced further codesharing with TAM. And American and Aeropostal, who announced a marketing and codeshare alliance in December, said that they had already secured all necessary government approvals (Delta already codeshares with Aeropostal).

The TACA and LanChile alliances, in particular, hold much promise. American will benefit from TACA's success and important position in Central America - the original deal envisaged codesharing on 275 weekly US-Central America flights. LanChile, in turn, dominates many South American markets.

The purchase of a 10% stake in Interinvest closed in November, giving AMR 8.5% of Aerolineas and 9% of regional carrier Austral. While two former American executives had been installed to run Aerolineas, American will not have direct management control or board representation. The codeshare arrangement was made contingent on Argentina signing an open skies ASA with the US - now very likely as in mid-January the presidents of the two countries instructed their negotiators to conclude such an agreement by the end of March 1999.

A rare opportunity for American to expand its own South American services came in June 1998, when a new US-Peru open skies ASA - the first such accord to take effect in South America - made extra frequencies immediately available and American was the only airline ready to expand service. It was able to begin a second daily Miami-Lima service in July.

But many of the US-Latin America markets have experienced problems since the early summer of 1998, in large part because open skies ASAs have led to significant capacity additions and lower fares. American's unit revenues in the region fell by 10% in the June quarter. The situation then apparently stabilised thanks to industry-wide service cuts (American terminated its New York-Lima route on November 1), but the fourth quarter of 1998 evidently saw another 10% yield decline and flat load factors.

Fresh worries about the region emerged in mid-January following Brazil's currency devaluation, which caused a sharp fall in AMR's share

price. As the worst scenario, Brazil's economic problems could lead to a deep recession in Latin America. Although American is not any more exposed to Brazil than other US carriers, it dominates the overall US-Latin America market, accounting for about 52% of US carriers' total capacity. In the first half of 1998, the Latin American division accounted for about 17% of American's total passenger revenues and 11% of its operating profits.

If the Latin American situation deteriorates, American, like its competitors, would probably reduce frequencies or temporarily halt service in affected markets. Profit margins would probably also decline further. In 1997 American earned a \$309m operating profit in Latin America (12% of revenue), but in the first half of 1998 profits were already running at 33% below the previous year's.

Prospects

Like most of its competitors, AMR reported a decline in net earnings for the fourth quarter, from \$208m to \$182m, and profits may also fall slightly in 1999. That said, American's strong balance sheet, operating performance and market position make it relatively well positioned to weather an economic slowdown. Longer-term prospects seem even rosy as the full benefits of oneworld, many of the other alliances, the Aerolineas investment and the US-Japan ASA will take time to materialise.

However, Latin America poses both immediate and longer-term challenges. Overcapacity and demand weakness may necessitate service cutbacks and lead to more aircraft retirements this year, while in the long-term open skies ASAs will increase competition and maintain pressure on yields.

American also faces substantial labour cost pressures. Its pilot costs will remain high for several years, until new contracts take effect at other carriers. The new leadership's conciliatory style may help avoid acrimony with the famously-militant flight attendants, whose contract became amendable on November 1, but sizeable pay increases are inevitable.

However, the company has worked hard to keep other costs in line, and a combination of cost-containment initiatives and capacity growth may lead to a reduction in unit costs this year.

By Heini Nuutinen

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Aircraft lessors - raising the stakes

The rules of the operating lessor business are currently being re-written. As with virtually every other facet of the aviation industry, consolidation is likely to be the key feature. In this Briefing *Aviation Strategy* takes a close look at the aircraft leasing industry and what the future may hold.

Background

In the 1980s the major lessors consisted of GPA, ILFC and AWAS. The aircraft manufacturers, after significant internal debate, agreed that operating lessors had an important role to play in the industry and that their existence was not harmful to their own bottom line. Yet while the manufacturers were happy to see another form of financing emerge (which would lessen some of their own balance sheet exposure), they also put in place some unwritten rules on the amount of new aircraft they would sell to the lessors. By the mid-1980s a steady but small number of aircraft were being delivered to the lessors (see graph, below), but the lessors' market share of the total fleet was under 7%.

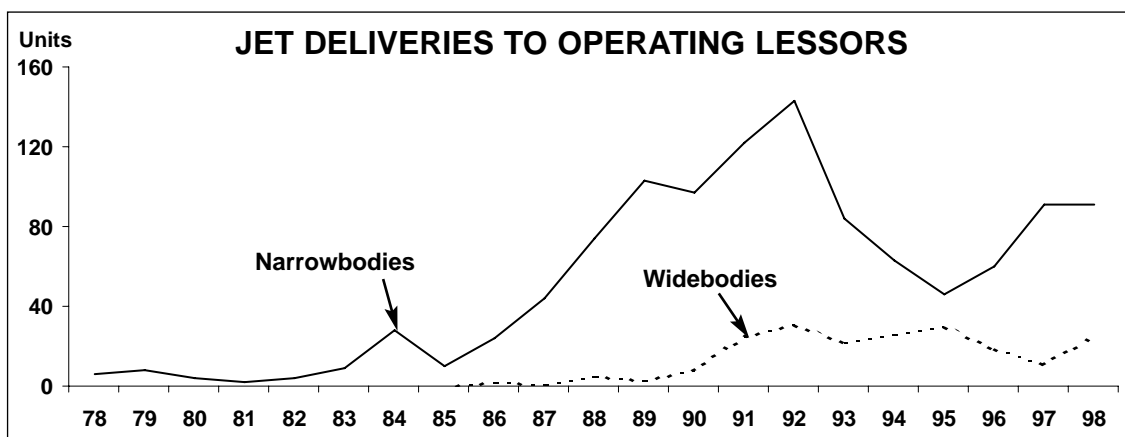
This system worked well in the 1980s, but the Gulf War and industry recession brought about a fundamental change to the status quo. In 1992, GPA reported a pre-tax profit of \$279m, but then undertook a

doomed IPO which would have valued the company at \$3.5bn. The failure of the IPO was the catalyst for a fundamental change in the operating lease industry over the remainder of the decade.

The more speculative lessors made two mistakes. First, they argued that there was a "capital shortage" in the aviation business, based on the difference between the projected number of aircraft required by the world's airlines and the traditional finance or internal funds available to fund the purchase of those aircraft - and that operating lessors would fill that gap. In fact the apparent capital shortage soon disappeared with a slump in traffic and aircraft demand. This resulted in cancellation of orders and, ultimately, a major improvement in airline profitability.

Second, an extraordinary amount of faith was put in the resilience of residual values. It was claimed that investing in aircraft not only produced a very high rate of return but also the risks (in terms of the volatility of future prices) were almost as low as with government bonds.

Anyway, those myths were exposed with the GPA flotation failure. However, the banking community had noted the high margins (compared to "vanilla" lending to airlines to support asset sales) that could be earned by aircraft lessors - if managed correctly - and



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they increasingly sought a share of this market.

At the same time, there was a flow of managerial talent out of GPA and the other established lessors. These managers had ambitious plans to establish their own aircraft leasing businesses, and so in the mid-1990s a number of new lessors have emerged to challenge the old order. The timing was good: the manufacturers were desperate to make sales, and they quickly broke their self-imposed limits on the amount of aircraft they would sell to the lessors in order to avoid a backlog of white-tails.

The keys to success

Success in aircraft leasing depends on the following factors:

- Buying power, which obtains discounts from the manufacturers, favourable slot positions and flexibility to change the aircraft models on order;
- Low cost sources of funding, preferably with access to friendly tax jurisdictions;
- Risk minimisation, through a broad global spread of customers;
- Investment in aircraft types that remain in demand and retain value; and
- Strong management skills in areas such as relationship-building with airlines and banks, remarketing skills and market awareness (for instance, in anticipating repossession situations).

One measurement of success, apart from survival, is that a lessor is financially robust enough and well managed for Airbus or Boeing to sell it new equipment. Those lessors that have seen out the decade and who fall into this category are listed in the table above.

The top four players

ILFC and GECAS between them account for 57% of the jets owned by the 11 lessors listed. Perhaps more importantly, these two lessors account for well over 70% of the backlog of all jets ordered by lessors. ILFC has grown organically to be the world's largest lessor, while GECAS took advantage of the distressed position that GPA found

THE MAJOR OPERATING LESSORS						
	Jets under legal ownership	% Stage 3	Average age (Years)	% wide- body	No. of operators	No. parked
ILFC	397	99%	4.5	28%	117	3
GECAS	317	82%	11.5	25%	98	23
AerFi	236	86%	10.8	18%	76	3
AWAS	110	99%	7.3	16%	52	2
GATX/Flightlease	63	97%	6.3	25%	19	2
Boullioun	46	78%	6.8	4%	19	0
debis	31	100%	4.0	13%	12	0
Indigo	26	77%	9.7	0%	19	2
Sunrock	16	100%	5.0	13%	16	0
SALE	12	100%	3.6	50%	12	0
Tombo	8	75%	11.0	13%	8	0
Pembroke	7	100%	6.2	0%	5	1

itself in after the IPO failure by acquiring its best assets to add to its own existing portfolio.

Although these companies have different management styles, they both share the essential characteristic for success - a low cost of capital plus backing and support from a strong parent. ILFC's owner-managers, the Udvar-Hazys, sold their company to the US insurance and financial services giant AIG in the early 1990s and have benefited from its AAA credit rating since then. GECAS's parent, General Electric, has a similar rating.

Through their existing orders, the status and ranking of the top two in the leasing industry is unquestioned. What is very unclear, however, is whether and when a serious rival will emerge to challenge ILFC and GECAS.

The residual GPA is now known as AerFi. It has been left with a substantial portfolio of assets, placing the company third in terms of size in the lessor rankings. But, the AerFi portfolio has a higher than average aircraft age, and some 14% of the fleet in the portfolio complies only with Chapter 2 noise regulations. Nevertheless, AerFi's special skill lies in managing a client list that carries a lower credit quality level than the customers of ILFC or GECAS, and achieving higher rewards with higher risks.

The exit of GECAS as a shareholder and the entry of David Bonderman's company, the Texas Pacific Group, may bring some stability to the company although some observers see Bonderman's investment as a

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short-term opportunistic gamble. Even if Bonderman does prove to be a long-term player, it is questionable whether even his skills and resources will be enough to keep AerFi in its number three slot in the medium-term.

AWAS is also more likely than not to slip down the rankings. Joint ownership between the TNT Post Group and News Corporation has in recent times not been a positive feature for AWAS. The company is regarded by some as lacking direction and is a potential acquisition target.

The ambitious challengers

Interestingly, the following three lessors, Boullioun/SALE, debis and GATX/Flightlease have all declared their interest in becoming the world's third largest lessor behind ILFC and GECAS. It is just such unbridled ambition that will drive the consolidation of this business.

Two of these three lessors have components that belong to airlines. Flightlease is

the aircraft leasing subsidiary of Swissair and SALE performs the same role for Singapore Airlines. GATX/Flightlease probably has the weakest credentials of the three to attain eventually the number three slot. While GATX Corp. is a NYSE listed company with a market capitalisation of some \$2bn, and Swissair is the twelfth largest airline in the world, the resources behind these two companies is still no match for those behind debis and Boullioun/SALE.

Boullioun was acquired by Deutsche Bank for \$120m in 1998 and Boullioun has a 35.5% interest in SALE, which some believe will, in time, be bought out by the German bank on behalf of Boullioun. Deutsche Bank is serious about wanting to grow Boullioun aggressively, and it certainly has the resources. In November 1998, Deutsche Bank announced its acquisition of Bankers Trust in a \$10.1bn deal that creates the world's largest financial institution (with assets in excess of \$800bn).

Debis also possesses a parent with both great ambitions in aircraft leasing and the resources to fund such ambitions - DaimlerChrysler AG. The German-American vehicle manufacturer has created a financial services division with a \$81bn portfolio of assets, which is only outranked by GECAS, and the financing divisions of Ford and General Motors.

The remaining four

The remaining four lessors in our table are tiny in comparison with the larger players and their future lies probably in carving out their own niche or possibly as being acquisition targets for the larger companies listed above. Survival as a niche player is certainly a possibility. As the big get bigger, complaints are growing that they are losing touch with the airlines' needs.

Pembroke, which recently merged with Rolls-Royce's leasing arm, Aircraft Financing and Trading, may focus on the expanding niche of the business that concentrates on aeroengines. Indigo is a NASDAQ quoted lessor based in Sweden that received its listing in 1998. Sunrock and Tombo are owned by two Japanese trading

EXAMPLE OF A LEASE TRANSACTION

Cost of 737-800	\$35,000,000
Source of funds for aircraft purchase	
Lessor equity	\$4,000,000
Debt (via bank loan)	\$31,000,000
Source of cash for lessor	
Security deposit (3 month's lease payments)	\$1,050,000
Initial 4 year lease @ \$350,000 per month	\$16,800,000
2 year extension @ \$330,000 per month	\$7,920,000
2 year extension @ \$340,000 per month	\$8,160,000
2 year extension @ \$300,000 per month	\$7,200,000
Total	\$41,130,000
Cost of bank debt repayment (7 years @ 7.5%)	-\$40,300,000
Net cash earned by lessor	\$830,000
Estimated residual value of aircraft	\$28,000,000
Total return	\$28,830,000

Note: The above is an example of how an actual lease transaction might work, demonstrating how the large profit margins earned by lessors are actually made. Over the last 20 years two major changes have taken place in the industry. First, the funding sources used by the lessors are now much more varied and sophisticated - they include securitisations, the use of ECGD funding, and capital market products such as medium-term notes. Second, some lessors now choose to sell the aircraft in a much shorter timeframe than has traditionally been the case with a lessor like GPA. For example, ILFC chooses to rely to a greater extent on regularly churning its portfolio of assets, thus placing a greater emphasis on the ability to purchase equipment cheaply and to sell the assets when market prices are hard.

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houses, the Nissho Iwai Corporation and Mitsui.

Although only lessors that have new aircraft on order have been included in this analysis, there are many other lessors dealing in used jet aircraft such as the CIT Group, Pegasus and CLPK that may fall prey to acquisitions.

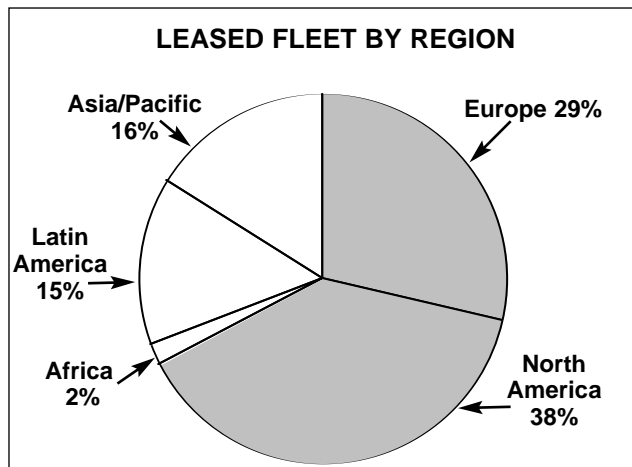
The future

Today the lessors have a market share of around 20% of the world fleet compared with just 7% 15 years ago. The operating lessors' market share of the jet orderbook is around 18%, but is much higher for the more popular types such as the next generation 737 models and the A320 family. By far the largest penetration of the lessors has been into the North American market where just under 40% of the lessors' aircraft are now placed.

The use of the operating lease has spread far beyond the traditional market of second-tier airlines with weak balance sheets: the leading lessors have placed up to 30% of their fleets with North American or European Majors. By contrast, the main lessors have only 6-7% of their fleets placed with the Asian Majors at present.

Asia is a growth opportunity for the lessors. The currency collapses have left airlines in the region with hugely increased debt burdens in US dollars; sale and lease-back of aircraft is the obvious means of raising dollar funds. Fleets and network plans are being radically revised; many aircraft are likely to be sold or leased out in order to accommodate changed market circumstances. There is an urgent requirement for airlines to downsize or "rightsize" their aircraft types to match capacity to the new level of demand. As there is still a shortage of some types of equipment in the West, the lessors may have a unique opportunity to benefit from this global imbalance.

There are other growth opportunities in Europe, notably with the state-aided flag-carriers that are in various stages of turnaround programmes. Now unable to access state funds, their fleet replacement strategies and network adjustments (which typi-



cally involve downsizing from, for example, A300s to 737s or A320s) require them increasingly to use aircraft lessors.

Operating leases are now also being used by the world's leading airlines as an integral part of their fleet strategies. In deregulated markets predicting traffic volumes becomes more and more problematic, increasing the risk of exposing airlines to overcapacity in a downturn. A key concept for fleet planners is a core fleet supplemented by a flexible fleet that can be expanded or contracted rapidly in response to market conditions; it is the role of lessors to supply the flexible fleet.

However, the potential for extending operating leasing to the leading airlines should not be exaggerated. The leading airlines can still achieve better financial terms from financial institutions and they can negotiate extremely competitive unit prices and terms from the manufacturers.

Which of the lessors will emerge from the post consolidation phase? Unless General Electric sells off or floats GECAS, the existing size of their respective orderbooks means that ILFC and GECAS will remain unchallenged in the near future as the two largest aircraft lessors. The depth of the pockets behind debis and Boulliou suggests that these two lessors will be highly aggressive and acquisitive in pursuing dominance over one another. Consolidation in the medium-sized bracket of lessors is likely to result in one or both of these companies joining the ranks of the mega-lessors, ILFC and GECAS, in the near future.

Can low-cost airlines be beneficial to incumbents?

As low-cost airlines increase their presence in Europe, strategists at established carriers are uncertain as to where the low-costs' traffic is obtained from. Is it diverted from other airlines and, if so, which are the most vulnerable? Or can low-costs generate new traffic, and if so what are the implications for established airlines? Here Dr Nigel Dennis, senior research fellow at the University of Westminster's Transport Studies Group, tries to answer these questions by looking at some of the available evidence.

The table below considers the short-term impact following the spate of new routes introduced by low-cost airlines in the summer of 1998. These have been divided into two groups for the purposes of comparison. All airports in the vicinity of each new route have been included to assess the impacts on traffic.

The table analyses the major routes between London and Milan (new entry by Go), Rome (Go), Oslo (Ryanair) and Geneva (easyJet). It shows that the low-cost carriers took 11% of the market in their first summer (up from 1%, which was an existing Debonair service to Rome). The total market for these destinations grew 16% - well ahead of the European average. Conventional scheduled services still enjoyed growth of 8%, suggesting that there was no net loss to the new entrants -

although this may partly be achieved by established airlines launching cheaper fares to compete with the low-cost operators. A closer study suggests that Heathrow services grew by only 5% while Gatwick and London City saw a marginal decline. Other scheduled services from Stansted grew by 75% mainly due to expansion by KLM uk and partners. Hardest hit were the charter airlines, who scaled back to only 3% of the market in 1998. In terms of airports, Stansted forged ahead of Gatwick when all services are included.

Secondary success

The table also considers the secondary routes - all by Ryanair, to Lyon/St. Etienne, Toulouse/Carcassone, Venice/Treviso and Florence/Pisa. These have seen more dramatic growth - up 38% year on year, which may be because they are less mature markets and also because some of the airports Ryanair is using are so distant from the main city that they practically count as new destinations from London! It is also likely that fares were higher on average from these places than in the dense markets, hence the price differential of the new service is greater. Ryanair has captured 21% of the market, but not at the expense of Heathrow where traffic has also grown by a handsome 26%. Gatwick has again fared less well and the charters have lost ground badly.

Gatwick appears particularly vulnerable because unlike Heathrow it is not the airport of preference for most users, and once a cheaper service becomes available from Stansted some users will be readily diverted. Heathrow also enjoys a degree of protection from its hub traffic that is not available to the low-cost airlines, and although British Airways has been developing a hub at Gatwick this is of a much smaller scale. Apart from charters, the most vulnerable airlines are those without a hub at either end of

TRAFFIC CHANGE FOLLOWING LOW-COST ENTRY

	MAJOR ROUTES*			SECONDARY ROUTES*		
	Market growth 1998/7	% of traffic summer 1998	% of traffic summer 1997	Market growth 1998/7	% of traffic summer 1997	% of traffic summer 1997
Conventional	+8%	93	86	+15%	81	67
Heathrow	+5%	74	67	+26%	38	34
Gatwick	-1%	13	11	+5%	43	33
Stansted	+75%	5	7	-	0	0
London City	-5%	2	2	-	0	0
Low-cost	+951%	1	11	n.a.	0	21
Charter	-42%	6	3	-19%	19	11
TOTAL	+16%	100	100	+38%	100	100

Note: *Major routes = London to Milan, Rome, Oslo, Geneva. Secondary = London to Lyon, Toulouse, Venice, Pisa & satellites. Source: University of Westminster.

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the route. Air France has already given up on London-Nice and KLM UK on London-Copenhagen, for example, and similar pressures would be expected to apply to Swissair on London-Geneva.

It is difficult to draw conclusive findings on the generation of traffic because these markets may have been targeted by the new entrants since they were seen as having the right conditions to grow rapidly - regardless of any low-cost service. It would also be premature to sound the death-knell of the charter airlines. In these markets (France, Italy etc), charters were never the major players and with a lot of independent holiday-makers the traffic is ideal for capture by low-cost scheduled airlines. Where inclusive tours dominate - as in much of Spain, the Greek Islands etc - the charters have little to fear, as their integration with tour operators will ensure their dominant position.

The table on the right considers the development of low-cost operations introduced around 1996. It can be seen that the low-cost market share is typically around 10% although additional low-cost carriers will boost this (20% on Barcelona and Glasgow). Nice has also been an unusual success story for easyJet. This suggests that by raising capacity through more flights or larger aircraft, the low-cost airlines can do better than initial market shares tend to suggest. In all cases except Nice, the total market growth has been much greater than average, implying that the low-cost carriers have not led to traffic being lost from the conventional services.

The Ryanair effect?

The only European market that enables a longer term study of the impact of low-cost airlines is that between the UK and Ireland, where Ryanair has been an essential part of the scene since liberalisation in the mid 1980s. Traffic on the London-Dublin route has quadrupled since 1985 (see page 12, *Aviation Strategy* June 1998), propelling it to the position of busiest international route in Europe. This is quite an achievement when one considers that the number of people carried on this route each year is not much

Route	Airlines	Airports	Market share 1997	Market growth 1997/95
Nice	easyJet	LTN-NCE	27%	12%
Barcelona	easyJet	LTN-BCN}	21%	71%
	Debonair	LTN-BCN}		
Stockholm	Ryanair	STN-NYO	13%	41%
Amsterdam	easyJet	LTN-AMS	5%	33%
Glasgow	easyJet	LTN-GLA}	20%	31%
	Ryanair	STN-PIK}		
Edinburgh	easyJet	LTN-EDI	10%	31%
Aberdeen	easyJet	LTN-ABZ	10%	26%

Note: Data is for 6 month period June-November (international) and May-October (domestic). Market growth for all London scheduled traffic was 15%. Source: University of Westminster/UK CAA.

different to the entire population of the Republic of Ireland!

It is instructive to consider the development of the total UK/Ireland market over this time period (1984-1996), compared with other markets such as UK-Germany and UK-Netherlands (which entail similar sea crossings). Data shows that UK-Ireland has grown faster than these other markets, with about an extra 1m trips per year in 1996 than would be expected on the basis of its historical position.

As for modal split, whereas only 30% of UK-Ireland travellers went by air in 1984, this rose sharply to 53% in 1990 as the numbers going by sea actually declined. Since 1990 there has been strong and almost equal growth in both air and sea modes, supported by a wider range of ferry services, including new high-speed craft. The Dutch and German markets have also seen a growth in air transport's market share but from a higher base. Again, most of this occurred during the 1980s. The Channel Tunnel has since captured a modest share of these markets but it appears to be at the expense of sea rather than air services.

The overall implications of this are that an additional 1m air trips on UK-Ireland appear to have been generated by low-cost air services and there has been no net impact on the traffic moving by sea. The low market share of air in 1984 to Ireland does beg the question as to whether the base point in this market was artificially suppressed, perhaps by air fares that were out of line with other destinations.

Aviation Strategy

Macro-trends

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
Nov 98	15.4	8.9	57.9	15.6	10.7	68.2	11.0	8.2	74.3	37.2	26.6	71.4	55.3	37.2	67.2
Ann. chng	7.5%	6.1%	-0.7	15.4%	9.3%	-3.8	-1.9%	2.5%	3.2	9.3%	7.3%	-1.3	8.9%	7.1%	-1.1
Jan-Nov 98	173.2	111.8	64.6	178.3	139.2	78.1	124.3	92.7	74.6	415.3	317.7	76.5	617.0	448.1	72.6
Ann. chng	7.3%	8.5%	0.7	9.6%	8.3%	-0.9	4.5%	3.9%	-0.4	8.3%	7.5%	-0.6	8.1%	7.7%	-0.3

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
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
Dec 98	82.6	56.0	67.8										28.8	19.5	67.4
Ann. chng	3.0%	2.0%	-0.7										3.0%	1.2%	-1.5
Jan-Dec 98	961.0	679.1	70.7										346.4	252.4	72.9
Ann. chng	0.8%	2.3%	1.1										4.5%	2.4%	-1.5

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 %
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	1,617	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, July 1998.

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	121	113	113	113	112	180	154	155	154	145	200	148	146	133	130
*1999	124	115	116	116	113	189	160	166	163	155	219	156	156	141	133

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

Aviation Strategy

Macro-trends

COST INDICES (1990=100)

	Europe						US					
	Unit revenue	Unit op. cost	Unit lab. cost	Efficiency	Average lab. cost	Unit fuel cost	Unit revenue	Unit op. cost	Unit lab. cost	Efficiency	Average 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 6 month Euro-\$	
	US	UK	Germany	France	Japan	UK	Germ.	France	Switz.	Euro**	Japan		
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	119	125	116	109	1998	0.603	1.759	5.898	1.450	0.896	130.8	5.51%***
*1999	126	122	127	117	109	Jan 1999	0.603	1.690	5.668	1.386	0.864	114.1	4.97%***

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

FUEL COST AND CONSUMPTION - US AIRLINES

	Domestic			International			Total		
	Cost cents/gallon	% change	Gallons-% change	Cost cents/gallon	% change	Gallons-% change	Cost cents/gallon	% change	Gallons-% change
1986	54.52	-31.9	10.5	61.28	-27.7	3.1	55.78	-31.1	9.1
1987	54.95	0.8	5.9	59.95	-2.2	15.2	55.95	0.3	7.7
1988	52.36	-4.7	2.9	57.63	-3.9	12.8	53.49	-4.4	4.8
1989	59.55	13.7	-0.1	63.68	10.5	9.0	60.50	13.1	1.9
1990	76.31	28.2	3.5	83.52	31.2	9.9	78.05	29.0	5.0
1991	66.71	-12.6	-7.3	75.98	-9.0	0.0	69.07	-11.5	-5.6
1992	61.83	-7.3	3.5	68.94	-9.3	5.4	63.67	-7.8	4.0
1993	58.63	-5.2	1.1	66.26	-3.9	-0.2	60.58	-4.8	0.8
1994	54.17	-7.6	3.6	60.59	-8.6	4.0	55.82	-7.9	3.7
1995	54.50	0.6	2.3	59.63	-1.6	3.8	55.83	0.0	2.7
1996	64.73	18.8	3.6	71.33	19.6	4.0	66.45	19.0	3.7
1997	63.09	-2.5	3.3	68.32	-4.2	6.4	64.48	-3.0	4.1

Source: ESG.

JET AND TURBOPROP ORDERS

	Date	Buyer	Order	Price	Delivery	Other information/engines
ATR	-	-	-	-	-	-
Airbus	Jan 6	Boullioun AS	15 A319s, 15 A320s	\$1.3bn	1Q02-4Q06	Orders can be swapped for other A320 family aircraft
BAe	Jan 25	Aegean Aviation	2 RJ100s	\$100m (inc. opts)	2Q99	+ 2 options
Boeing	Jan 19	COPA Airlines	8 737-700s		2Q99+	
	Jan 8	Lauda Air	4 737-700s, 2 737-600s			
			1 767-300ER		3Q99-02	+ 4 options for 737-700s
	Dec 22	Delta	16 737-800s, 6 757-200s			Previously unannounced orders
			2 777-200ERs			+ 25 options
Bombardier	Jan 22	SkyWest Airlines	25 CRJ-200LRs	\$560m	2Q00-4Q02	
	Jan 19	Ryukyu AC	1 Dash 8-100	\$12.5m	4Q99	From option
Embraer	-	-	-	-	-	-
Fairchild Dornier	-	-	-	-	-	-

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

Aviation Strategy

Micro-trends

	Group revenue	Group costs	Group operating profit	Group net profit	Total ASK	Total RPK	Load factor	Group rev. per total ASK	Group costs per total ASK	Total pax.	Total ATK	Total RTK	Load factor	Group employees
	US\$m	US\$m	US\$m	US\$m	m	m	%	Cents	Cents	000s	m	m	%	
Korean Air														
Apr-Jun 97	TWELVE MONTH FIGURES													
Jul-Sep 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
Oct-Dec 97														
Jan-Mar 98														
Apr-Jun 98														
Jul-Sep 98														
Oct-Dec 98														
Malaysian														
Apr-Jun 97	TWELVE MONTH FIGURES													
Jul-Sep 97	2,208	2,289	-81	-81	42,294.0	28,698.0	67.9	5.22	5.41	15,117	6,411.0			
Oct-Dec 97														
Jan-Mar 98														
Apr-Jun 98	SIX MONTH FIGURES													
Jul-Sep 98	860	958	-98	-11			57.2							
Oct-Dec 98														
Singapore														
Apr-Jun 97	SIX MONTH FIGURES													
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														
Thai Airways														
Apr-Jun 97	773	775	-2	11	11,352.0	7,583.0	66.8	6.81	6.83	3,700	1,620.0			
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	-179	12,084.0	7,963.0	65.9	4.84	4.82		1,700.0			
Jul-Sep 98														
Oct-Dec 98														
Air France														
Apr-Jun 97	SIX MONTH FIGURES													
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														
Alitalia														
Apr-Jun 97	TWELVE MONTH FIGURES													
Jul-Sep 97	5,083	4,878	205	161	50,171.4	35,992.3	71.7	10.13	9.72	24,552				18,676
Oct-Dec 97														
Jan-Mar 98														
Apr-Jun 98														
Jul-Sep 98														
Oct-Dec 98														
BA														
Apr-Jun 97	3,624	3,395	229	260	39,697.0	28,756.0	72.4	9.13	8.55	10,613	5,589.0	3,875.0	69.3	60,083
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														
Iberia														
Apr-Jun 97	TWELVE MONTH FIGURES													
Jul-Sep 97	4,168	3,900	268	126*	37,797.6	27,679.2	73.2	11.03	10.32	15,432				
Oct-Dec 97														
Jan-Mar 98														
Apr-Jun 98														
Jul-Sep 98														
Oct-Dec 98														
KLM														
Apr-Jun 97	1,692	1,566	126	99	17,310.0	13,640.0	78.8	9.77	9.05		2,996.0	2,335.0	77.9	34,804
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		3,098.0	2,404.0	77.6	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														
Lufthansa***														
Apr-Jun 97	3,654	3,463	192	220*	32,109.0	23,465.0	73.1	11.38	10.79	11,618	5,505.0	3,893.0	70.7	57,901
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	23,763.0	16,239.0	68.3	12.21	12.04	8,808	4,621.0	3,171.0	68.6	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														
SAS														
Apr-Jun 97	1,379	1,151	228	178*	7,962.0	5,392.0	67.7	17.31	14.46		5,617			23,904
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	4,939.0	63.6	17.17	15.49		5,212			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														
Swissair**														
Apr-Jun 97	1,787	1,724	63	76	17,464.4	11,880.7	68.0	10.23	9.87	7,643	3,340.6	2,291.9	68.6	10,163
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														
Oct-Dec 98														

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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