Issue No: 65

Aviation Strategy

March 2003

Have airlines slowed down permanently?

Just about everyone in the mainstream aviation industry - from the manufacturing, financing, airport and airline sectors - has relied on a perceived long-term relationship between GDP growth and traffic (RPK growth) of 2.5:1. Consequently, long-term traffic forecasts almost always show global traffic growth of around 5-6% pa with suitable regional variations.

Now this consensus is being challenged. For instance, Andrew Sentance, Chief Economist at British Airways, speaking at the recent Geneva Aviation Finance Conference, commented that not only would there be no immediate traffic bounce-back, but also the industry might expect a significantly lower long-term growth rate.

He noted that real airline yield has halved since 1970, so to some extent growth has been "bought". There is now a major question as to whether industry can grow at forecast RPK rates of 5-6% pa as it is running out of the ability to decrease costs.

"Financially sustainable growth" is perhaps more realistic at 3-4% pa, assuming a 1-2% decrease in real yields. This growth rate would also be closer to the concept of "environmentally sustainable growth" of 2-3% pa. Lobbying from various environmental bodies is now focusing on capping air traffic growth through new taxes on fuel burn, emissions, noise, etc. Now might be a good time for the airline business to prove its green credentials by setting growth limits in cooperation with the environmental lobby.

The economic reasons behind the projected slow-down in long-term growth are fairly evident:

- The US industry is experiencing an unprecedented shock with real revenue declines of 25% in domestic market, two to three times worse than ever experienced before;
- The uncertain global economic outlook;
- Security concerns and related travel inconvenience becoming an on-going feature of air travel;
- Unfriendly policy environment (antitrust regulation preventing consolidation, restrictive bilaterals and environmentalism)
- Some markets appear to have reached maturity, notably the US where real revenue growth has been lower than GDP growth throughout the 1980s and 1990s.

A couple of countervailing arguments:

- The US network carrier industry is going through an unprecedented period of restructuring - a subject which dominates this issue of Aviation Strategy, see American and United (pages 2-7) and Continental (pages 8-12) - and it might be premature to draw any long term conclusion on traffic trends from the current crisis;
- While a slow-down in long-term growth might be inevitable for the network or long-haul carriers, the opposite prospect faces the low-cost, short-haul carriers.

www.aviationeconomics.com

CONTENTS

Analysis

Have airlines slowed down permanently? **1**

United and American: are the turnaround plans viable? **2-7**

Briefings

Continental: escaping the crisis so far **8-12**

Can TAP Air Portugal survive long-term? **13-16**

Management

LCC growth: implications for the suppliers **17-19**

Databases **20-23**

Airline traffic and financials

Regional trends

Orders

PUBLISHER

Aviation Economics
James House, LG,
22/24 Corsham Street
London N1 6DR
Tel: +44 (0) 20 7490 5215
Fax: +44 (0) 20 7490 5218
e-mail: info@aviationeconomics.com

American and United: are the turnaround plans viable?

Aviation Strategy
is published 11 times a year
by *Aviation Economics*
at the beginning of
the month

Editor:
Keith McMullan
kgm@aviationeconomics.com

Subscription enquiries:
Julian Longin
jil@aviationeconomics.com

Tel: +44 (0)20 7490 5215

Copyright:
Aviation Economics
All rights reserved

Aviation Economics
Registered No: 2967706
(England)

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

ISSN 1463-9254

The opinions expressed in this publication do not necessarily reflect the opinions of the editors, publisher or contributors. Every effort is made to ensure that the information contained in this publication is accurate, but no legal reponsibility is accepted for any errors or omissions.

The contents of this publication, either in whole or in part, may not be copied, stored or reproduced in any format, printed or electronic, without the written consent of the publisher.

Senior management at American and United presented turnaround business plans to employee groups in February, including requests for immediate labour cuts of at least $2bn a year at each carrier.

The need for major labour cost relief, and the risk of bankruptcy and insolvency is accepted by the key employee unions. Regardless of the causes of the financial crisis or future industry prospects, the short term profit and cash flow gaps can only be bridged by reductions in variable input costs, and the gaps cannot be closed without major cuts in wages, benefits and staffing.

It is also widely accepted that above average labour costs is the largest of the many problems facing the troubled carriers. Vaughn Cordle, who has been analysing the crisis over the past two years, prepared the graph (page 3), showing the near-perfect negative correlation between average employee costs and operating profitability among the traditional Big Hub carriers. United and American both have the highest labour costs ($90,000 per person) and the worst financial performance (negative 20% margins). If all of the Big Hub carriers had the $60,000 average employee costs of Continental or Southwest, the industry as a whole would have made a small profit last year (except for non-recurring costs), despite the adverse demand conditions. United's analysis suggests that roughly 30% of the labour cost problem is due to inefficient workrules that inflate staffing requirements, 20% is related to pension and benefit costs, and half is wage related.

Lacking normal access to capital markets, the two parties most responsible for the current mess - management and labour - must reach a common agreement before the cash runs out. Management's objective is to reduce labour costs to market levels, the most critical step to an eventual reorganisation and profit recovery, but must convince its employees and unions to accept its specific proposals. Employees and their unions will take the position of prospective investors deciding whether to "invest" these billions in the hope that management's proposals can restore sustainable profits across future business cycles.

The employee/investors will ask the same questions that any strategic investor or outside observer would consider:

- Have the causes of the current crisis been fully addressed?
- Will the proposals really drive a long-term profit turnaround?
- What are the major business risks and the sensitivity of key assumptions?
- How will the overall risks and returns be shared?

While a failure to invest could doom these airlines, employees will be reluctant to contribute the billions they are being asked to "invest" unless they are confident that the plan will actually save their companies and provides the maximum possible protection for the returns (jobs and earnings) they are looking for. Employees and their unions will be acutely aware that the major concessions granted at several airlines during the financial crisis of the early 90s did not lead to sustainable improvements in either full-cycle financial returns or the process of distributing those returns between stakeholders.

At one level, the two plans are strikingly different (see boxes on pages 4 and 5 for details). United argues that fundamental changes in corporate structure and collective bargaining arrangements are needed in order to drive a major cultural "transformation", while American's plan stays strictly within current structures. At another level, the proposed changes to cost structures and network operations (that would be visible to customers) are virtually identical. United's pilot union has already signalled that it is fundamentally dissatisfied with both the business logic and the investment risk of

management's plan, and may attempt to propose an alternative plan.

Strict focus on cost reduction

Employees hoping that management would put forward a comprehensive explanation of how competitive forces have altered the prospects for future earnings (and thus sustainable cost levels), and their plans of how to maximise future earnings given these changes, will be badly disappointed. Aside from noting the growth of Southwest and other LCCs, and that operating costs are well above current revenue levels, neither presentation attempts to explain the root causes of the crisis or demonstrate an overall approach to solving those issues. The analysis presented is static. Here is today's gap between costs and revenue, and here are the cuts that would close that gap. Cost reduction is the only action proposed by management.

United proposes a two-tier cost reduction, with more draconian cuts for employees operating flights directly competitive with LCCs. Although huge marketplace shifts have occurred in the last five years, neither presentation mentions the possibility of further changes, or whether the proposed cost cuts will be adequate if negative trends continue. At United, the crew on the flight from O'Hare to Baltimore would simply be paid 25% less than the crews flying from O'Hare to LaGuardia, while American's proposed cost cuts would be spread more evenly and would not be route-specific.

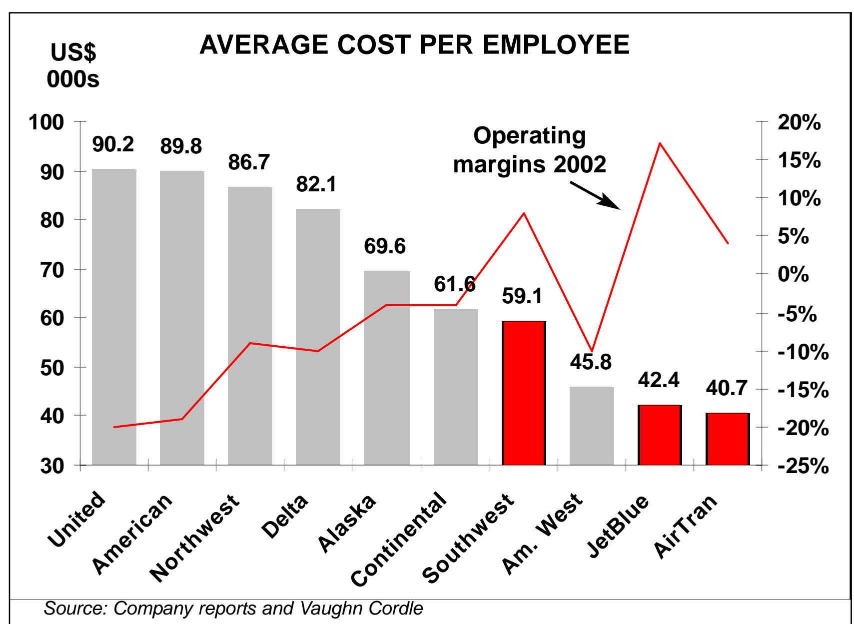
No attempt is made to distinguish between cost cuts needed to address cyclical issues versus structural or permanent declines in competitiveness. United notes labour's wildly disproportionate current share of economic value, given the wage increases granted at the peak of the dotcom bubble, but the unions might not readily accept new levels based on an extreme downcycle. The broader (but more complex) question of how labour compensation should be structured vis-à-vis other stakeholders over a full business cycle is not addressed.

Understandably, neither carrier attempts to forecast the specific risks of an Iraq war, but they do not even attempt to explain the link between GDP forecasts and profit recovery or how future revenue projections reflect the permanent changes in the pricing environment.

Neither plan mentions the impact of the massive dotcom over-expansion on pricing nor whether supply/demand or pricing conditions are likely to change. Both carriers assume its current network size and shape is optimal, or would become optimal with lower costs. Although Southwest has steadily taken share from the Big Hub carriers, and maintains a huge cost advantage, the magnitude of further share losses is not estimated. There is no discussion of the type or scope of markets where United and American might have sustainable advantage versus the markets where Southwest has a clear advantage, nor of any factors that might affect relative advantage other than cost.

United explicitly argues that it "must respond to the LCC threat" and that Starfish is required for this purpose. American says it wants to retain its Hub focus and limit direct LCC competition. In practice, both carriers plan to continue to operate today's route network with relatively minor changes.

The extreme emphasis on cost reduction



Source: Company reports and Vaughn Cordle

THE AMERICAN RESTRUCTURING PLAN

- American remains committed to its traditional Big Hub based business model serving a very broad range of markets and does not intent to restructure into a Southwest-style Quasi-Network operation
- American can sustain a 30% unit revenue premium versus Southwest
- Given this revenue premium, American needs to reduce its current cost base by $4bn
- American has identified $2bn in non-labour savings, with half already implemented, and the balance achievable by 2005
- American therefore requires $2bn in labour savings, and proposes how these might be allocated to the major employee groups, but remains open to negotiation as to the mix of wage/benefit cuts or productivity-driven staffing cuts used to achieve them
- Avoidance of bankruptcy and maintenance of the current capital structure is a major objective

is appropriate in the short-run as management has no other meaningful way to leverage this year's financial performance. But the static approach to target setting, and the failure to put this cost reduction in any broader strategic context may give the employee/investors cause for concern. Many employees have already voiced concerns that the current concessions will prove inadequate and management will need to return with further demands. While future profitability could be affected by changes to aggregate capacity, pricing, market and competitive focus, both airlines have proposed plans strictly limited to major reductions of costs to market levels, without explaining why that would be the best approach and why other elements of strategy did not need major adjustment in light of market changes.

Future revenue premiums?

Both the American and United employee presentations point to historical unit revenue premiums and both plans assume that those premiums are structural and will continue. American's assumed 30% unit revenue premium is the starting point of its entire request for labour concessions. Although this may not be intuitive to front-line staff, no effort is made to explain the assumption or why it would be sustainable as the industry undergoes major changes. Management thinking appears virtually the same: American says the premium comes from "loyalty and brand strength", United says the premium is due to the value of their "brand, schedule, frequent flyer program and product". Both American and United are saying, that "given an equivalent choice, people will pay more money to fly with us". Customers like the brand, think the product is superior, and proactively demonstrate loyalty.

In reality, most of the observed revenue premium comes from operating in markets with less price competition. In many cases, the higher prices are sustainable as the markets have inherently higher costs. New entrants have little prospect of achieving lower costs on low demand domestic O&Ds, long-haul international markets or the full range of O&Ds served from dominant hubs such as Minneapolis or Atlanta. Some of the premium comes from niche products such as First Class, and from Big Hub pricing and yield management approaches that more aggressively prices peak capacity and more aggressively discounts off-peak seats. Southwest currently never charges more than $158 St Louis - Baltimore, even the day before Thanksgiving, but American will charge a lot more when demand outstrips supply.

Big Hub carriers will continue to observe higher unit revenues than Southwest, but on a diminished basis as LCCs expand and pricing structures are simplified. But it will not come from customers loyally choosing United/American over Brand X. AAdvantage loyalists may have routinely called American without price shopping in the days when industry price differences were much, much narrower and the chance of finding a price/schedule alternative that offered clearly better value was much, much lower. Those days are long gone. Bubble era $1,000 business fares destroyed any sense of customer value (much less loyalty), and people are now

well trained to search for alternatives. But you would not guess that from the American or United presentations, which treat revenue and competition in wholly static terms, relying on assumptions developed when LCCs were less than 2% of the industry.

Customers will continue to value the strong Big Hub networks, but revenue forecasts cannot assume any significant customer value beyond the basic schedule. Higher unit revenue results from a combination of competitive conditions and the willingness of customers to pay more for a service they value (much more service than Cincinnati or Fargo could support under the Southwest business model, greater last minute seat availability on Friday evenings). These more aggressive revenue assumptions might give investors reason to doubt that management has fully appreciated the major competitive and pricing changes of recent years. Another danger is that when management implies that people deliberately pay more to fly on American or United, it may reinforce the sense of entitlement traditionally used to justify above-market labour compensation.

United's new airline-within-an-airline

United's unions have announced their opposition to Starfish, which would operate 35% of the domestic narrowbody fleet. Starfish is intended to give United two different cost platforms, and would presumably be the platform for future growth.

Starfish would be a new startup airline, with separate operating licenses, management, union contracts and seniority lists. United argues that full segregation of operations and collective bargaining terms is necessary to make a clean break with the labour-management attitudes of the past and to prevent Starfish practices and cost levels from rapidly reverting to the higher United Mainline levels. While conceding the seriousness of the cost problem, the unions object strenuously to the breakup of the current United seniority system, and are concerned that management would continue to move aircraft and staff out of Mainline.

The unions have also objected to Starfish as unworkable from a business perspective. The task of starting up an airline with 134 aircraft, with all of the attendant hiring, transfers, training and logistical work would be daunting under the best of circumstances. It would burn cash at a time of critical liquidity. Starfish staff would be asked to adapt to a totally new style of operations immediately following huge pay cuts and career disruption. The unions do not believe that United

THE UNITED TRANSFORMATION PLAN

- United notes that its core target business revenue base has declined dramatically and it is not competitive for price-sensitive leisure demand
- United claims that its unit costs are currently 17% higher than the lowest cost traditional Big Hub carriers (Delta/US Airways) 47% higher than the low-cost hub airlines (America West/Frontier) and 85% higher than the non-hub Quasi-Network carriers (Southwest/JetBlue).
- United's core strategy is to confront the Low Cost Carrier (LCC) challenge and its ongoing market share erosion by splitting into two domestic airlines, its traditional "Mainline" operation targeted at customers who primarily value "recognition and improved process" and a new wholly-owned lower cost operation (codenamed "Starfish") to serve customers who focus on "value for money"
- United proposes a major expansion of United Express RJ operations (increasing from 200 to 275 aircraft by 2006) but under revised contract terms that would reduce fees for departure by 25-30%
- United's Mainline fleet would shrink by 32% with 134 aircraft transferred to the Starfish subsidiary; the combined United-operated fleet would shrink by 6-7%
- United requires $2bn in labour savings from the employees that would remain with the Mainline operation, plus $1bn in identified non-labour savings, in order to achieve unit costs comparable to the current Big Hub standard (Delta)
- Employees transferred to Starfish would lose all seniority, wage and pension benefits under the current contract, and would be paid on terms (wages, conditions, profit sharing) comparable to other low-cost carriers
- United believes Starfish can achieve unit costs 22% lower than post-concession Mainline costs but does not specify the aggregate savings relative to current labour rates; these costs would still be 12% higher than Southwest due to higher airport and distribution costs.
- United acknowledges that the new strategy cannot succeed without a stronger Employee Value Proposition, and calls for stronger leadership and communication from senior managers and other Human Resource management changes
- United's 2003 business plan calls for a loss of $915m (versus $2.7bn in 2002) based on a 14% staffing reduction, $1.8 bn in savings from improved collective bargaining provisions, a 7.4% improvement in unit revenue and 6% less capacity operated.
- United believes that Mainline operations would return to a modest profit in 2004 and achieve 11-13% pre-tax margins from 2005 onward, while Starfish would earn 13-17% margins from 2004 onward.

management is up to the task of managing this totally new operating approach, noting that it must simultaneously manage the financial reorganisation, and massive layoffs and changes in every other part of the company.

United's entire plan is based on the need to counter attack the LCCs, who have undermined their traditional core business revenue base, while expanding leisure demand, where United is uncompetitive. United's plan rejects the approach used by both traditional airlines and LCCs who attempt to serve a broad range of business and leisure demand on every route. It believes that customers on some (Mainline) routes primarily value "recognition and improved process" while customers on other (Starfish) routes focus on "value for money".

Once again this suggests that United thinks there are customers who not only prefer United to Brand X, but are not highly focused on "value for money" and are content paying higher fares for normal economy service. United proposes operating Mainline "business" routes such as Chicago-LaGuardia with two-class aircraft and tight connections while Starfish "leisure" routes such as Chicago-Baltimore would use high-density aircraft that would be scheduled for maximum utilisation, not connections.

United's plan not only rejects its long-standing approach which maximises network utility and scope at its hubs, but also rejects key features of the Southwest approach to operations which maximises product standardisation and simplification and totally avoids operational complexity such as connections to a wide range of international, regional and interline flights.

United acknowledges that every previous "airline-within-an-airline" attempt has failed, but fails to provide employee/investors with a clear explanation of why this attempt might succeed. The more rigid segregation of operations and union contracts may prevent backsliding, but will also impose huge start-up and overhead penalties. A more gradual approach would reduce short-term savings and preclude the cultural "transformation" that United says is critical. United notes that other recent variations on this strategy (Zip, GermanWings, Song) have market focus and branding totally distinct from their parent, but Starfish will be tightly integrated into United's hubs and brands.

Lessons from Southwest

United explicitly acknowledges that no US carrier other than Southwest has provided strong, steady financial returns to all stakeholder groups, and that only Southwest has a robust business model incorporating best-in-class costs, clear value propositions for both customers and employees and disciplined growth in target markets. But instead of Southwest's disciplined focus on a target market where it has sustainable competitive advantage, United still seems attached to the thinking of ten years ago, and wants to be all things for all customers, with a product for every segment.

It is unclear how United's plan would create new value for any customer segment, critical issues such as pricing are not mentioned, and traditional network strengths might actually be reduced. There is no attempt to demonstrate competitive strengths that could earn returns over a full business cycle. Instead, the plan appears motivated by the loss of market share to LCCs and focuses narrowly on this year's gap between revenue and costs.

While United's presentation devotes thirty slides to the need to provide a strong value proposition for employees, and to tightly align staff motivation and corporate strategy, it ignores the practical problems of achieving this while also laying off tens of thousands of staff, gutting past collective bargaining agreements and pension plans and facing a serious threat of liquidation.

American's plan retains its traditional Hub based strategy, which is widely understood and accepted by staff, but offers no guidance as to how that strategy can be improved or sustained in the coming years. While United's plan for countering LCC growth is unconvincing, American simply does not address the question of whether it

can compete successfully at either its current size, or some smaller size. It would be quite fair to argue that the need to rapidly implement major cost reductions outweighs the need to calibrate longer-term strategies, but management has offered these as structural solutions. The employee/investors are openly concerned that they have been asked to contribute billions towards what is only an interim first step.

The labour dilemma

Neither airline has hope of attracting critical outside investment without bringing labour costs in line with market rates. If the unions were to agree to the cuts management has requested, existing creditors would have a much greater chance of full repayment and new investors would have the prospect of reasonable returns. But it is unclear why the employees would agree to totally gut their collective bargaining agreements and pension plans and end the careers of perhaps 30% of their colleagues and then allow all of the future benefits to go to outside investors.

Neither plan mentions any future compensation or upside benefits should the employee investments succeed in restoring the airlines' financial health. American acknowledges that it is open to negotiation on any approach that would provide the needed savings, but also explicitly states that preservation of the current ownership and capital structure is a major objective. United's unions have a more difficult decision as there is no recapitalisation plan so they are being asked to contribute billions without any way of knowing who will control the company in the future.

None of the available alternatives at this point offer huge cause for optimism. Employees may accept especially painful cuts if management makes a powerful case clearly based on the changes in the marketplace, proposes a convincing new business model that responds to those changes, demonstrates that it has made a major break with the failed approaches of the last five years, and was serious about achieving a Southwest-type solution where all major financial stakeholders could earn reasonable, reliable returns over the full business cycle.

However it is yet to be proven that the unions will freely agree to the magnitude of cuts needed to drive a full profit recovery, even under the pressure of the bancruptcy process. Management could attempt to permanently break the unions, and this would certainly facilitate new outside investment, but might undermine already fragile service and productivity levels.

By Hubert Horan
email: huberthoran@hotmail.com

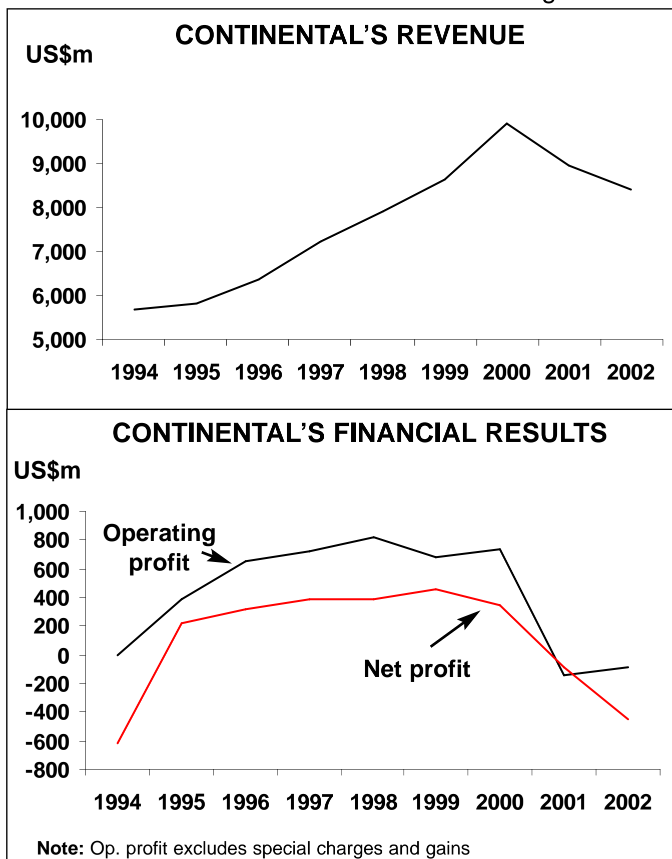
AVIATION STRATEGY ONLINE
Subscribers can access *Aviation Strategy* (including all back numbers) through our website www.aviationeconomics.com. However, you need a personal password - to obtain it email *info@aviationeconomics.com*

Continental: escaping the crisis so far

Continental, the fifth largest US Major, has outperformed competitors on both the revenue and cost fronts over the past 18 months and, consequently, has escaped with relatively modest losses. If the current industry environment does not worsen further, the Houston-based airline is likely to be among the first major hub-and-spoke operators to return to profitability (in 2004, at the earliest).

However, Continental has relatively weak cash reserves (only $1.1bn projected for the end of March) and limited financial flexibility (no credit line and no unencumbered aircraft). This puts it in a vulnerable position if industry conditions deteriorate.

In other words, Continental has the potential to be a real winner - if the industry crisis does not worsen - or among the first to file for Chapter 11 bankruptcy if there is a war with Iraq.



So far, the company has not been singled out for negative speculation (AMR has been the target in recent weeks). This is partly because there are no significant near-term debt maturities but also because Continental possesses special attributes that make it a textbook model of a survivor. It has relatively low unit costs, good labour relations, a flexible workforce, a balanced route system, great hubs, an acclaimed management team and promising alliance prospects.

In the short term, the key question is whether Continental will continue to find imaginative ways to raise liquidity. In December it managed to borrow $200m using spare parts as collateral, and the top management recently indicated that "other opportunities" were being pursued.

In the longer term, the key challenges will include coping with a heavy debt and lease burden, maintaining a labour cost and productivity advantage in the face of competitors potentially closing the gap, and successfully developing the three-way alliance with Northwest and Delta.

Outperforming the industry

Continental is probably the biggest 1990's success story among the major carriers. After emerging from its second Chapter 11 visit in April 1993, the company staged an impressive financial turnaround. In the latter half of the decade, it consistently achieved high profit margins, despite rapid international growth and a process of bringing wages to industry standards.

Much of it was the result of a turnaround strategy put in place by a new leadership team, headed by Gordon Bethune, the current chairman and CEO. Also, the airline was fortunate in having "underdeveloped" hubs (Houston, Newark and Cleveland), with

spare capacity and a large potential local traffic base.

The mid-1990s restructuring involved scrapping Lite (the low-cost airline venture launched in 1993), phasing out the 21-strong A300 fleet, eliminating 4,000 jobs, strengthening hub operations, bringing back first class, improving on-time performance and renegotiating debt, aircraft deliveries and leases.

Significantly, in the highly profitable late 1990s, when many other US airlines became lax about costs and saw labour expenses soar, Continental carried on with the cost cutting. When one target was exceeded, the goal was simply raised. This, together with the benefits derived from fleet renewal, higher aircraft utilisation, productivity improvements and lower distribution costs, enabled unit costs to be kept in check despite considerable wage pressure.

After surging in 1996 in the wake of Lite's disappearance, Continental's unit revenues remained stable (around 10 cents per ASM) in the late 1990s and rose to 10.67 cents in 2000. The trend was due to a steady rise in the business passenger content of total traffic (reflecting consistently high operational performance and good employee morale), which compensated for the adverse effects of rapid expansion.

All of this meant that Continental was in pretty good shape when it entered recession and the post-September 2001 industry crisis - contrast that with the situations at United and US Airways (whose problems began long before 2001). The Houston-based airline had also wound down the earlier growth phase in 2000.

In the past two years, Continental has posted the best operating and net margins among the large hub-and-spoke carriers. Its 2001 net loss was only $95m, or $266m excluding special items. Last year's net loss was $451m, though the exclusion of fleet impairment and other special charges reduced it to $290m - the second-best result among the majors (after Southwest) on a "per ASM" basis.

Continental has experienced just as severe revenue pressures as its competitors have in the past 18 months, as indicated by the 15% fall in its revenues between 2000 and 2002. But it has avoided the worst effects of the crisis thanks to successful capacity management and cost controls.

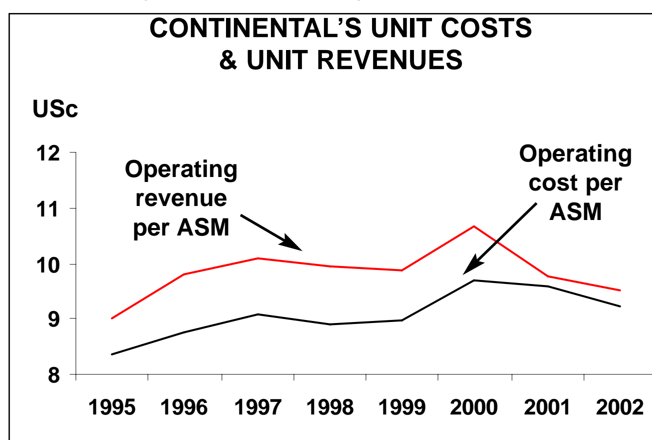
As an indication of good capacity management, last year Continental achieved the industry's highest domestic load factor (73.8%) and the second-highest system load factor (74.1%, after Northwest's 77.1%). This was despite the fact that its 5.2% capacity reduction was less than the 7-10% contraction seen at the three largest majors.

Continental also claims to have achieved a significant length-of-haul adjusted unit revenue (RASM) premium over competitors last year, possibly because of its continued superior operational performance. Its calculations suggest that the adjusted RASM was about 10% higher than the industry average. Of course, Continental's actual RASM has fallen by 11% in the past two years, from 10.67 to 9.52 cents.

The airline managed to reduce its unit costs (CASM) from 9.68 cents in 2000 to 9.22 cents last year, indicating that it has maintained a cost advantage over other large hub-and-spoke carriers.

Like many of its competitors, Continental has exceeded its earlier cost performance targets. In the fourth quarter of 2002, it reduced its mainline ex-fuel CASM by 6.6%, rather than by 4-5% as planned. The various cost and revenue initiatives under way boosted last year's pre-tax results by $130m, compared to the initial target $80m, and are now expected to contribute at least $400m to the bottom line this year.

The impressive fourth-quarter CASM



reduction was driven by a new package of small belt-tightening initiatives implemented last autumn, including charging additional fees for paper tickets, eliminating certain discounted fares, rigidly enforcing fare rules and the collection of excess baggage and change fees, and modifying certain employee programmes.

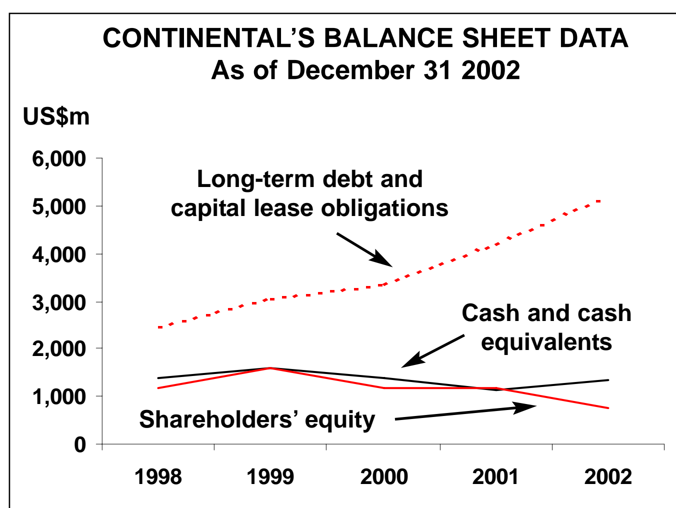
A further 4% domestic capacity reduction this year (on top of last year's 6.5% cut), to be achieved by retiring an additional 11 MD-80s, will contribute to the cost savings. However, at this stage Continental is still hoping to avoid additional furloughs.

The company expects another significant loss in 2003. Under a best-case scenario, it could return to marginal profitability in 2004, but there are obviously significant near-term challenges.

Now that the prospect of a war with Iraq is dragging on into the spring, it is a point of concern that Continental has no fuel hedges in place beyond the first quarter. That is in contrast to its 95% hedge position; with petroleum call options averaging $33 per barrel, for January-March.

One worst-case scenario is that a war with Iraq - and hence the temporary period of extremely high fuel prices - might spill into April and that Continental, with its already weak liquidity, would quickly run out of cash (even before the government released any assistance to prevent multiple bankruptcies).

Weak liquidity, soaring debt



Continental had $1.34bn in cash and short-term investments at year-end, which included $62m of restricted cash and $121m of cash held by ExpressJet. This was well above the company's earlier $1bn target thanks to the $200m debt offering in December.

Cash burn in the current quarter has been similar to the December quarter's $1.5m a day on an "all-in" basis (including debt payments and capital expenditures). There has been no cash-raising, so the cash balance is forecast to amount to $1.1bn at the end of March.

On the negative side, Continental has no bank credit line (part of its financial policy - the airline's top finance executives believe that credit facilities are not there when one needs them the most). Nor does it have any unencumbered aircraft or Section 1110-eligible spare parts.

The company still holds a 53% stake or 34m shares in ExpressJet, which it is committed to selling. The stake represents a good potential source of liquidity, but Continental would be loath to sell it until it can get a decent valuation in better market conditions. In the meantime, ExpressJet has continued to contribute nicely to Continental's bottom line; it posted a net profit of $84.3m for 2002.

On the positive side, Continental has very modest capital spending requirements and no significant debt payments on the horizon. This year's debt maturities are $468m. Some debt covenant issues may arise in July, but the worst-case scenario would be to have to pay off about $158m of debt.

Pension underfunding is less of an issue for Continental than for many other US major carriers, because its pension plan is smaller. Last year it also (wisely) used $150m of the ExpressJet IPO proceeds to boost the plan. At the end of 2002 it had a total pension liability of $1.1bn. This year's pension expense is estimated to be $325m and the cash contribution only $200m.

Even if there is a cash crunch due to continuation of high fuel prices, Continental may find novel ways to raise funds; after all, it has been extremely successful in the debt and

equity markets in the past. When the times were good, the airline always completed the lowest-cost aircraft financings in the industry. In the tough climate of the past 18 months, it has deployed a variety of cash-raising methods. Post-September 2001 transactions have included a $172m secondary share offering, a $200m convertible note offering, public and private offerings of $475m of EETCs, the ExpressJet $447m IPO, and the $200m spare parts debt offering.

If Continental makes it through the next few months, the longer-term challenge will be to repair a balance sheet that has been considerably weakened by the cash drain and increased borrowing. Total debt and capital leases amounted to a substantial $5.7bn at the end of 2002, up 25% from the year-earlier $4.55bn.

Fleet plans

As part of the post-September 2001 restructuring, Continental deferred 28 of the 48 Boeing aircraft that were previously slated for delivery in 2002. The deferrals gave Continental a 16-17 month break from new deliveries. Continental plans to take the first four deferred aircraft (all 737-800s) as early as the fourth quarter of this year, while American, Delta and others have deferred deliveries right through 2004.

Continental points out that retirements and lease expirations will more than offset the new deliveries. Under the current plan, the mainline fleet is expected to shrink from 366 aircraft at year-end 2002 to 357 at the end of 2003.

The airline is rationalising and modernising its fleet, which in 1998 included nine different aircraft types. After the grounding of the 25-strong DC-10-30 fleet in late 2001 (and the subsequent decision to permanently retire those aircraft), the number of types was reduced to five. It will go down to four when the 737-800s will have replaced the MD-80s over the next couple of years.

Continental listed 82 grounded aircraft at year-end, of which 30 were owned and 52 were leased. The owned aircraft are being carried at an aggregate fair market value of $68m. The eight owned ATR-42s have been sold, and the airline continues to explore sublease or sale opportunities for the other aircraft that do not have near-term lease expirations.

The total firm orderbook at year-end stood at 67 Boeing aircraft, valued at $2.5bn and all due for delivery by the end of 2008. ExpressJet had firm orders for 86 ERJs, valued at $1.7bn, of which 36 will arrive this year.

CONTINENTAL'S FLEET PLANS
As at December 31 2002

	In operation	Orders (Options)	Delivery/retirement schedule
777-200ER	18	(3)	
767-400ER	16	0	
767-200ER	10	(2)	Four 737-800s to be delivered in 4Q03, the rest in 2004-2008
757-300	4	11 (11)	
757-200	41	0	
737-900	12	3 (12)	
737-800	77	38 (35)	
737-700	36	15 (24)	
737-500	65	0	
737-300	58	0	
MD-80	29	0	
Total Mainline	**366**	**67 (87)**	
ERJ-145XR	18	86 (100)	36 to be delivered in 2003, the rest in 2004-2008
ERJ-145	140	0	
ERJ-135	30	0	
Total RJs (ExpressJet)	**188**	**86 (100)**	

Out of service	Owned	Leased	Total	
DC-10-30	4	7	11	Either temporarily grounded, permanently grounded (seeking sublease or sale opportunities) or on expiring leases.
MD-80	8	8	16	
737-300	0	5	5	
747-200	2	0	2	
EMB-120	8	10	18	
ATR-42-320	8	22	30	
Total Out of Service	**30**	**52**	**82**	

Source: Continental's annual report

Labour productivity advantage

Continental's biggest competitive advantage is its high labour productivity - one of

the achievements of the early 1990's Chapter 11 visit. For example, its flight and ground crews work longer hours, take fewer vacation days and have more flexible job duties than their counterparts at other major network carriers. The productivity advantages have been maintained while the workers' wages have been restored to industry standards.

The differentials between Continental and the least productive carriers are so large that it seems unlikely that carriers like American and United can rewrite their labour contracts to fully close the gap.

Continental is in talks with its own pilots on a contract that became amendable in October 2002, but not much progress is expected until the scope of the change is known at United and American. Its mechanics recently ratified a new four-year contract that grants them competitive wages and benefits, while maintaining the company's labour productivity advantage. Interestingly, the deal recognises current industry conditions in that, while establishing work rules and other contract items through 2006, it includes a provision to reopen negotiations about wages, pensions and health insurance benefits in January 2004.

Alliance plans

The addition of Delta to the Northwest-Continental codeshare and marketing alliance will give Continental further opportunity to strengthen its domestic market position. The three-way deal was first proposed last summer and is now being rapidly implemented, with FFP and lounge cooperation introduced in the current quarter and codesharing following this spring and summer.

Quantifying the financial benefits of alliance is always a nebulous exercise. Nevertheless, Continental predicts that the addition of Delta will improve its pre-tax results by $50-75m annually, after taking into account the estimated impact of the United-US Airways alliance. This would be on top of the $200m of annual benefits it claims that it already derives from the Northwest alliance.

The venture had an uncertain start in January, because the airlines chose to proceed without addressing the competitive concerns of the DoT (after the DoJ did not object on antitrust grounds). However, by March 3 the airlines had resubmitted their application, accepting three of the DoT's six conditions and proposing amendments that would address the other concerns. Resolving the regulatory issues will obviously enhance the alliance's longer-term prospects.

By Heini Nuutinen
email: HNuutinen@compuserve.com

CUSTOMISED COMPANY AND MARKET BRIEFINGS

If you are interested in a briefing on a particular airline, manufacturer, lessor or industry sector/market, *Aviation Economics* is able to produce in-depth reports customised to your requirements.

Contact: Keith McMullan or Tim Coombs
+44 (0)20 7490 5215
info@aviationeconomics.com

Can TAP Air Portugal survive long-term?

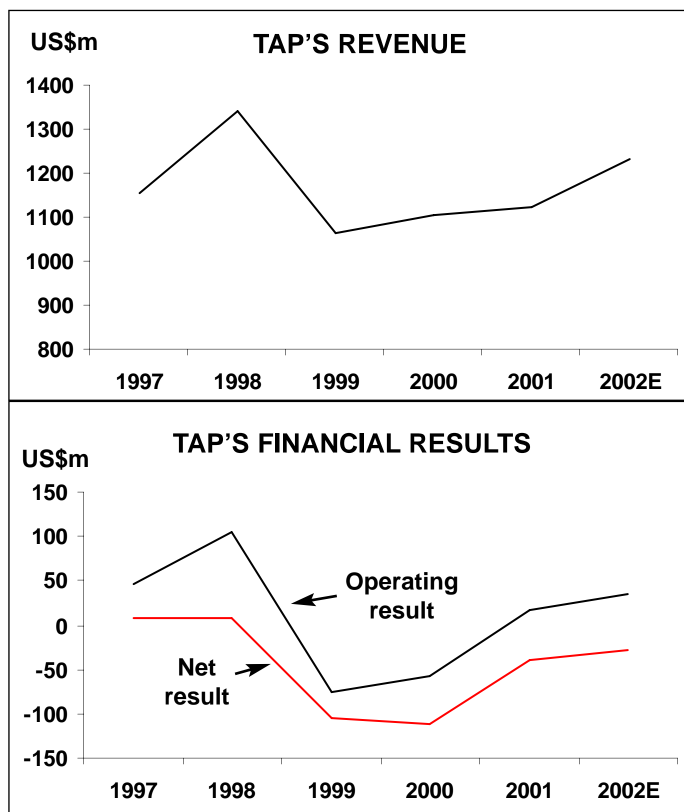
2003 is a vital year for TAP Air Portugal. The Portuguese government hopes that an airline that has struggled to adapt to a subsidy-free existence, will complete a successful privatisation, transforming itself from a sleepy, third-tier European airline into a profitable carrier that can survive tough competition. But is TAP Air Portugal a worthwhile investment, or - regardless of ownership - will the airline only ever be on the periphery of Europe's aviation industry?

Portugal's flag carrier was founded in 1945 and since nationalisation in 1975 it has remained firmly in the grip of the state. As with other state-owned airlines in Europe, whenever TAP's finances became precarious the government was more than happy to step in and give or loan large amounts of state aid, particularly in the mid-1990s. In 1997, however, this all changed when the Portuguese government decided it had no choice but stop the subsidies. Not surprisingly, as the 1990s came to a close TAP started racking up substantial losses (see graph, right), and it soon became apparent that the future of the airline might be in doubt.

With further cash injections from the state ruled out, the Portuguese government decided an external saviour was needed. Unfortunately, the white knight that came to the rescue was Swissair, in retrospect just about the worst choice the government and its advisors could have made. In March 2000 Swissair promised to buy a 34% stake in TAP for just over $150m, an investment that would tie the airline into a major European player and secure its future for some years to come.

It didn't turn out that way of course and the collapse of Swissair in 2001 was a severe blow to the airline and the government. Not only did TAP lose its financial saviour, but it also lost an important traffic feed from Sabena and Swissair flights, as well as its global airline alliance (TAP was one of the founders of Qualiflyer in 1998). In the months after Swissair pulled out the Portuguese government searched frantically for a replacement Portuguese investor, but this effort was doomed once September 11 occurred (although, ironically, the attack was beneficial to TAP as passengers switched to it from other airlines).

To compound matters even further, the impending Portuguese general election of May 2002 precluded any restarting of the search for new investors in the first half of that year, so the airline had no alternative but to consolidate and focus on operational matters. In terms of finance, TAP arranged some short-term solutions. In 2001 an existing $400m+ loan from the Bank of Tokyo Mitsubishi was renewed for another two years, while in the summer of 2002 TAP arranged a €100m loan with PK Airfinance, a subsidiary of GE Capital, secured on three A340s in the TAP fleet. The European Commission no longer considers aircraft-backed financing as being state-aid, but loans and aircraft remortgaging are only short- and



medium-term expedients. The need to find firmer financing still existed for TAP,and the only real alternatives were, (and are), substantial new equity and/or positive cash flow.

In one sense, through 2002, the airline's management knew that it only had to worry about short-term financing, as privatisation - the usual assumed panacea for troubled flag-carriers - was always going to be revived by the government. Ideologically, the new centre-right government in Portugal was guaranteed to be keen on selling off the state's assets, but in any case the EU's Growth and Stability Pact forced the government to reduce its substantial deficit by all means possible.

The privatisation plan was therefore resurrected in the second half of 2002, with a completion date set for 2003. In late 2002, the government appointed Rothschild, Banco Portugues de Investimento and McKinsey to oversee the process. An initial trade sale of between 34-39% has been widely flagged as the preferred option, but sources suggest that a larger sell-off is also being considered. In principle the government would prefer to offload all the state’s stake anyway - but it also makes financial sense as it would get a much better price per percentage sold for selling a majority stake rather than a minority one. And as the government intends to use all the proceeds to reduce public debt, investors are going to have to dig deep again in order to find development finance - a move they are much more likely to do if they have a majority stake rather than a minority one.

TAP's assets

So what will investors get for their money? TAP currently serves 36 destinations in Europe, Africa and the Americas, using a relatively modern fleet. Operating thin long-hauls profitably is always a major problem. TAP should be profitable on Angola where it has had little direct competition and benefits from a restrictive bilateral (though it will have lost connecting traffic as BA has resumed direct flights from London to Luanda). On Brazilian routes TAP should benefit from Varig's parlous financial situation. The service to New York is probably operated for partly political reasons.

On the European network TAP's challenge is to find a niche on scheduled routes to main cities and capture a good proportion of the business traffic. While TAP inevitably still benchmarks itself against other, mostly northern, AEA airlines, competition is increasingly coming from the LCCs and the scheduled subsidiaries of the charters, with which it cannot begin to compete on cost. Ryanair, which previously had avoided the Iberian peninsula because of high airport charges, has now started flying to Faro from Dublin (as well as entering Spain at Girona-Barcelona airport).

Domestic competition comes from Portugalia. In existence for just 13 years, Portugalia today accounts for 20% of the Portuguese market, and this would be even higher if its expansion plans hadn't been delayed by an aborted flotation in 1998 and the saga of a proposed sale to Swissair in 1999. The latter was investigated by the European Commission on competition grounds, given Swissair's links with TAP, leading to Swissair withdrawing its offer in August 2000 (which was fortuitous from Portugalia's point of view, as it turned out).

Competition apart, the underlying problem is that Portugal's market - whether measured by domestic or international traffic - is small when compared with almost all its rivals (the Portuguese market as measured by ASKs is a tenth the size of the UK market and a quarter the size of the Spanish market), and even smaller if business travel, a key profit driver, is considered. This home market weakness is a major handicap for TAP, and one that the airline's management is stuck with.

So for the two years that Fernando Pinto, the TAP CEO, has been in charge, the airline has been making the best of its situation, and indeed its operational performance has seen significant improvement. Daily aircraft utilisation rates have increased by 30% over that period, with staff levels down by more than 10% (to just over 8,000) as part of a general drive to cut costs.

Yet by most criteria, TAP is still behind its European rivals. Productivity is still poor; with ASK per employee some 30-40% higher at TAP than the AEA average (although the gap has closed over the last couple of years). There is still much work to be done, and some tough strategic decisions that the airline's management has not taken (or, given its current ownership, cannot take). For example, capacity on

some loss-making short-haul routes in Europe is too high. A new owner is likely to be ruthless in weeding out the loss-making routes and increasing capacity elsewhere, although in the short-term the scope for these moves will be constrained by the fleet mix.

All of TAP's 38 jet aircraft are Airbuses of which eight or nine are on operational leases from the major leasing companies. The reliance on Airbus aircraft is a strategy that brings operational savings to TAP but makes it vulnerable to price creep from the European manufacturer. TAP executives argue that this isn't the case, and that they keep in close contact with Boeing all the time in order to keep the pressure on Airbus. However, this is not a current issue as TAP has recently completed a fleet revamp, replacing older A320s and 737s on short-haul routes with new A320 family aircraft, the last of which arrived in 2002. The long-haul fleet is more varied age-wise, with A310s and A340-300s, and the A310s will be replaced at some stage. However, the current plan is that TAP will not place any new aircraft orders for the next two or three years - although it's almost certain that this timeframe will change once the privatisation of TAP is completed. When that happens, the need for more long-haul capacity to exploit underserved routes will most likely lead to an early decision between A330s and 777s, the leading candidates to replace the A310s.

The TAP Group also has a ragbag of other airline investments that need to be rationalised. They include a 51% stake in Yes Charter Airlines, which TAP launched in 2000 in partnership with Viagens Abreu, a Portuguese tour operator. The two-aircraft airline is loss making and a strategic distraction, although perhaps not as troublesome for TAP as its 15% stake in Air Macau, which it acquired in 1994. This latter investment is more to do with Portugal's colonial past than with any serious traffic or financial strategy, and TAP withdrew its services to Macau when the territory was handed back to China in 1999. The Air Macau shareholding is held indirectly via a Macau-based company, and negotiations have been held with the Macau government (which is Air Macau's major shareholder) over a graceful TAP exit.

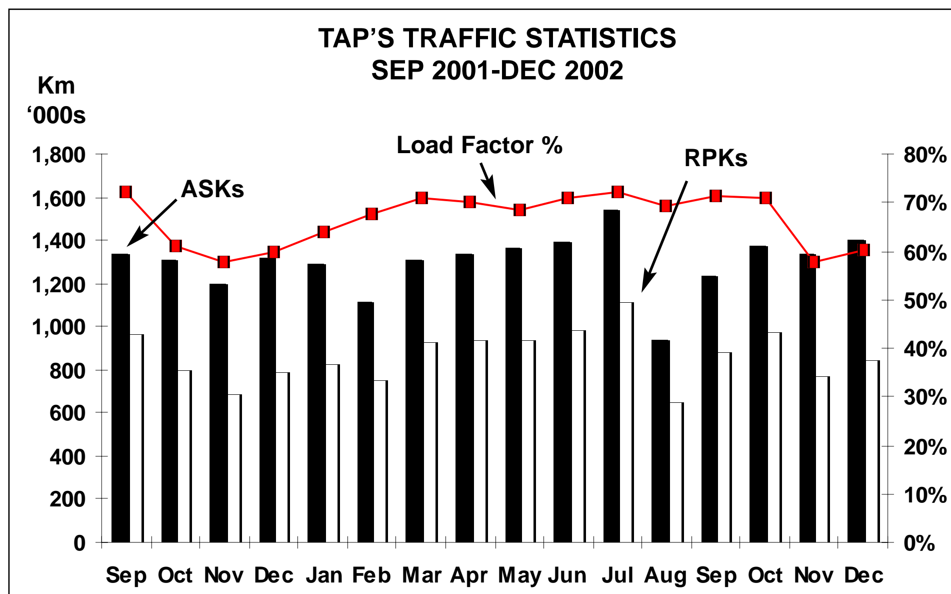
A decision also has to be made on global alliances. Sensibly, TAP has decided not to rush in to any new alliance agreement as a replacement for Qualiflyer. Instead it has signed more than 10 codesharing agreements, which keeps all TAP's options open and, more importantly, does not preclude any airline investor from one of the global alliances. The major codesharing deal signed with Iberia in 2002 (to more than 20 destinations), has led many analysts to believe oneworld is the eventual destination for TAP, but the question cannot be resolved until the identity of the new investor is known. Conversely, TAP is dropping a codeshare agreement with American Airlines from the end of March, but too much should not be read into this as the move is primarily due to TAP switching its sole North American route from JFK to Newark airport, where American does not have a strong presence.

Reported results for 2002 have been encouraging, and in the third quarter of 2002 (July-September), TAP recorded a 23% increase in net profits to $43.6m, with operating profit up 27% to $59.9m. In the January-September period, net losses fell by half to $21.8m, while operating profit rose 56% to $25.9m.

At the end of last year TAP claimed it was still on course to just about reach its target of a small net loss of around $5m for 2002. However, it is probable that the loss will be slightly larger than that due to - among other things - the effects of the December general strike by workers across Portugal in protest against the government's plan to erode laws protecting workers' rights. It must also be remembered that TAP group results include not only the airline but also ground handling, maintenance and engineering units, the last three of which are profitable and hence mask a continuing loss for the underlying airline operations. (Tentative plans to sell-off ground handling have met union opposition, and in February, 3,000 TAP employees staged a protest march in Lisbon against any break-up of TAP’s business units).

Profits and strategic fit?

They key question, therefore, is whether TAP's core airline operations can ever be profitable? The options for TAP's current management and/or the new owners are limited. Looking to 2003, TAP aims to shave another



Culturally there should be a close fit and Iberia has admitted it is studying an investment in TAP, but what would Iberia get from an equity link-up that it is not currently getting from a codesharing deal? Theoretically, TAP's and Iberia's European networks could be rationalised while TAP's long-haul flights could be redirected to Madrid, with a Lisbon-Madrid shuttle serving Portuguese O&D passengers. Politically, redirection of flights from Lisbon to Madrid will not be appealing, even to a centre-right government. And of all Europe's airlines Iberia has the strongest South American network anyway, so does TAP really have enough additional business passengers to make it worth Iberia's while to spend at least $150m in securing them?

The key to the privatisation may be TAP's long-haul network, which contain some of the most and least profitable routes at the airline. As a basis for setting up or enhancing an existing European-South America route network in competition to Iberia's, they may be attractive, particularly for Air France. Yet in November 2002 Pierre Gourgeon, Air France executive director, said that the airline was not interested in investing in TAP, preferring instead to look at other opportunities. In any case Air France has recently extended a codeshare agreement with Portugalia. And an investment by Lufthansa would be very problematical given Varig's status in the Star Alliance. Would Lufthansa and Star really be prepared to ditch Varig in return for acquiring TAP?

If this analysis is correct it would leave TAP with just Iberia as an airline suitor. Local business leaders are also rumoured to be interested but whether that interest will transform into an investment is uncertain.

$30m off its costs base via initiatives such as a hiring freeze, but will this be enough? Headcount could be reduced further and loss-making routes axed ruthlessly, and it is feasible that this sort of action would make the airline profitable long-term - but only at the cost of angering the workforce and shrinking the airline to a size that guarantees it becomes a viable niche carrier on the margins of the European airline industry. That may or may not be the best option for TAP, although whether the myriad of advisors to the government are likely to recommend this option now that the green light for privatisation has been given is very doubtful. Indeed the very rationale for finding a trade buyer is that there must be some king of strategic fit between TAP and one of the European mega airlines, based around network complementarity.

Yet that may be a very dangerous assumption. Virtually all of the potential European acquirers have deep troubles of their own at present, and the investment case for a major external acquisition at this stage would need to be very persuasive indeed. Just what exactly does an airline at the periphery of Europe and with debts approaching $1bn have to offer airlines such as Iberia, Lufthansa or Air France?

Much has been made of the codesharing agreement between Iberia and TAP, which many believe makes the Spanish flag carrier the front-runner in the investor race (if there is more than one interested party, that is).

LCC growth: implications for the suppliers

The growth of Low Cost Carriers (LCCs), is affecting many areas of the industry: consultants at AeroStrategy have examined the implications for the LCC's suppliers. Suppliers are here defined as original equipment manufacturers (OEMs) and suppliers of the major aviation service categories that account for just over half of a typical airline's expenditure (see chart below).

OEMs

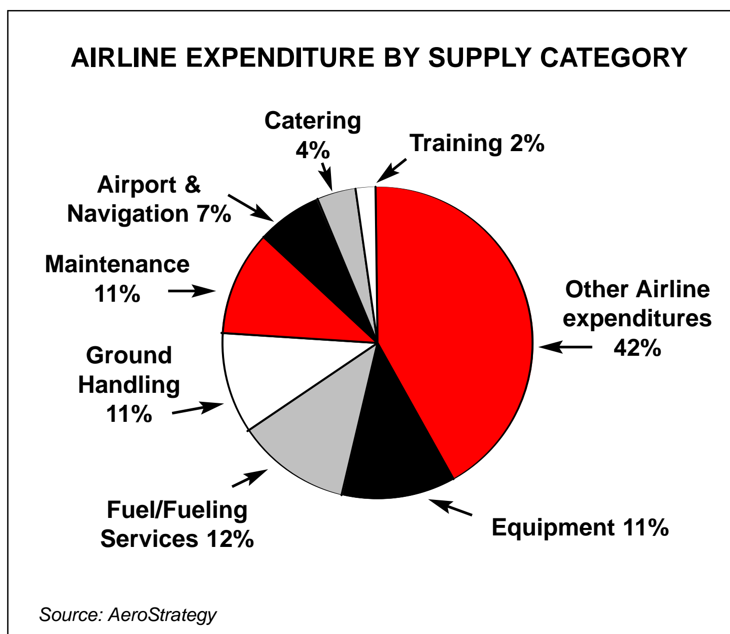
An important implication for OEMs is a changing fleet mix with an increasing requirement for short to mid-haul narrow bodies. AeroStrategy's fleet forecast model predicts that the 737NG and A320 family aircraft together will grow from 21% of the fleet today to 34% in 2013. The LCC market tends to be an "all or nothing" opportunity. These carriers stick with one type of equipment, be it an airframe, engine or component system. This focus on a single type, combined with the scaleability of their business model, means that the most successful LCCs can become very significant customers in a relatively short period of time. Witness Ryanair's 250 orders and options for Boeing aircraft since January 2002. This will force OEMs to make significant bets and take a long-term perspective. The easyJet decision to buy Airbus in addition to Boeing is an exception and most LCCs are unlikely to follow.

Other than low price, what do LCCs seek from OEMs? The imperative of high asset utilisation means that OEMs must place a strong focus on aircraft availability and reliability of equipment, spare parts supply and technical support. The imperative of simplicity and the propensity of LCCs to outsource means that support in training, spares, logistics and maintenance services has to be world-class. Some OEMs, and in particular Airbus and its vendors with their entry into the European LCC market with easyJet, will have to step up to the mark. With the growth of the LCCs, the OEMs product support network and product will become even more important - and will itself have to be scaleable.

The OEMs must also not forget their core customers - the majors / flag carriers. While the traditional airlines seek to learn "low cost" lessons from LCCs (e.g. higher aircraft utilisation), they will continue to need to differentiate and redefine their product. This is particularly important as they strive to attract back the business traveller and develop new value propositions. The cabin product and environment will be a key area of attention for all OEMs.

Ground handling

LCCs should be good news for ground handling suppliers, as they generate move-



COMPARISON OF AIRLINE BUSINESS MODELS

Activity	Low Cost Carriers	Traditional Carriers
Commercial*	In-house	In-house
Finance/Accounting	In-house	In-house
Quality	In-house	In-house
Base/hub handling	Mix	In-house
Non-hub handling	Outsourced	Mix
Hub line maintenance	In-house	In-house
Heavy maintenance**	Outsourced	Mix
Technical Services	Mix	In-house
Into-plane fueling	Outsourced	Mix
Catering	Outsourced	Mix
Pilot training	Mix	In-house

Notes: * Includes e.g. network planning, brand management, purchasing
** Includes engine overhaul, airframe heavy maintenance, component O&R

Source: AeroStrategy

ments, passengers and generally outsource this activity. The winning suppliers will be those who can simplify and adapt their processes to the very tough demands of a high utilisation, short turnaround environment.

Furthermore, one of the key value propositions marketed by the new "global" ground handling companies such as Swissport or Penauille is a single source, common standards service proposition. This should be an ideal match with LCCs if this supplier model is indeed correct and can be delivered. The challenge is to demonstrate the value of a network approach and convince carriers not to shop for the best rates by airport. Additionally, the current turmoil may be a one-time catalyst for major airlines to outsource this labour intensive, non-core business activity - particularly in the United States. US majors employ tens of thousands of ground handling employees and should not ignore the cost reduction opportunity represented by this large pool of relatively unskilled labour.

Maintenance

Like ground handling, maintenance suppliers should benefit from the growth of LCCs given their tendency to outsource. They are under no illusion whether or not extensive maintenance capability is core to the airline: it clearly is not. This means they are more dependent on their maintenance suppliers than typical customers, as they demand services such as component management, technical services and planning support.

The reason that easyJet has an engineering organisation of less than 10 managers is that it has long-term "full support" contracts in place, including the unique easyTech concept that provides third party yet dedicated line maintenance and maintenance control. This is not to say that LCCs will outsource all maintenance activity: even Southwest finds it necessary to perform line maintenance and airframe "C" checks to maintain desired levels of dispatch reliability and operational flexibility.

Does the low cost focus imperative mean that LCCs will invariably choose the lowest price supplier? Not necessarily. Their focus is on high asset availability and productivity, and life-cycle costs are important. Suppliers need to demonstrate how they will deliver the optimal blend of reliability, flexibility, quality, support and performance to win LCC business. In some cases this will benefit independent suppliers, in other cases OEMs and airline maintenance organisations. All suppliers should anticipate aggressive negotiation on service levels for aircraft availability and reliability, and on total price.

Finally, a real challenge for maintenance providers is to grow with the carrier. The services required are not new but they have to be delivered to customers with increasing size and the highest demands for low costs, responsiveness, efficient processes and incentivised performance.

Fuelling services

The lions' share of expenditures in this service category is for fuel, the supply of which is virtually totally dominated by the oil companies. This will not change. But what

are the implications for into-plane fuelling services? In Europe and Asia the oil companies also dominate this part of the fuelling supply chain. The cost benefit of unbundling into-plane services from fuel supply only becomes substantive when an airline has significant scale. So it will be a while until any of the European or Asian LCCs reach this point. Meanwhile, the LCCs will impose high demands on their into-plane suppliers as they continue to focus on short turnarounds. The incumbent oil companies need to satisfy this requirement or face losing business. In contrast, in the United States the oil companies are generally "off-airport" and into-plane services are provided by independents such as ASIG or by the airlines themselves. The most important observation here is that the US airline recession could be a catalyst for some US major airlines to re-examine the necessity of their in-house into-plane fuelling capability.

Airport and navigation

Airport business models have become increasingly commercial in recent times and competition between airports has grown. LCCs have important implications for this supplier group. First, LCCs have shown they can generate new traffic and significant growth - hence they provide new opportunities for regional and local airports. Examples abound, from the impact of Southwest Airlines at Baltimore Washington, JetBlue at Long Beach, and Ryanair at multiple secondary and even tertiary airports.

A second implication for airports is that LCCs are in some instances using their negotiating leverage to achieve lower landing fees, traditionally a sacred cow of controlled costs. Ryanair's success in this area with several European airports is well known. However, with the world's top 50 airport groups showing a comfortable net margin of 11% in 2001, while the top 50 airline groups averaged a 4% net loss, the issue of airport charges has moved to the front burner for airlines.

What about navigation services? This is not an area of expenditure where airlines have a lot of choice or much opportunity to negotiate on charges. However, once again, an LCC is taking a lead and Ryanair is now actively campaigning for greater accountability and charges based on achieving appropriate service standards.

Catering

LCCs are generally bad news for the catering suppliers, as their emphasis on simplicity reduces catering demand. In contrast to major airlines that spend 3-4% of their budget on catering services, LCCs typically spend less than 1%. Clearly, they are not a major growth opportunity for catering suppliers, which will need to focus on large, long haul airline customers and help them to redefine and improve their product and value-add to the passenger.

Training

Again, LCCs are natural outsourcers that provide business opportunities for training suppliers. And many of the larger airlines have also recognised that they do not need to own and manage very expensive flight simulators. These trends have already resulted in increased outsourcing and a consolidation of supply, with the simulator OEMs aggressively expanding into this market. Traditional practice in pilot training is to buy in simulator time but in the interests of quality and operations and safety standards, use in-house instructors. LCCs are again innovators in this area - easyJet this time, with its unique relationship with CTC, where the latter provides instructors not just for the classroom and the simulator, but also for recurrent and line training.

By David Stewart and Kevin Michaels
of AeroStrategy
email: dstewart@aerostrategy.net

	Group revenue US$m	Group costs US$m	Group op. profit US$m	Group net profit US$m	Operating margin	Net margin	Total ASK m	Total RPK m	Load factor	Total pax. 000s	Group employees
Alaska											
Year 2000	**2,177**	**2,198**	**-20.6**	**-70**	**-0.9%**	**-3.2%**	**27,834**	**19,277**	**69.3%**	**13,512**	**9,940**
Year 2001	**2,141**	**2,263**	**-121.8**	**-39.5**	**-5.7%**	**-1.8%**	**28,837**	**19,712**	**68.4%**	**13,668**	**10,742**
Jan-Mar 02	497	548	-51.4	-34.4	-10.3%	-6.9%	7,189	4,791	66.6%	3,193	
Apr-Jun 02	477	480	-2.2	-2.5	-0.5%	-0.5%	7,932	5,427	68.4%	3,616	10,222
Jul-Sep 02	620	597	24	11	3.9%	1.8%	8,380	5,911	70.5%	3,978	10,465
Oct-Dec 02	430	484	-54		-12.6%		7,657	5,092	66.5%	3,367	
Year 2002	**1,833**	**1,908**	**-75**		**-4.1%**		**31,156**	**21,220**	**68.1%**	**14,154**	
American											
Year 2000	**19,703**	**18,322**	**1,381**	**813**	**7.0%**	**4.1%**	**258,951**	**187,507**	**72.4%**	**86,239**	**99,610**
Year 2001	**18,963**	**20,823**	**-1,860**	**-1,762**	**-9.8%**	**-9.3%**	**161,030**	**176,143**	**69.4%**	**99,235**	**102,093**
Jan-Mar 02	4,136	4,865	-729	-575	-17.6%	-13.9%	64,515	44,766	69.4%		97,800
Apr-Jun 02	4,479	5,080	-601	-495	-13.4%	-11.1%	70,724	53,125	71.4%	24,340	100,100
Jul-Sep 02	4,494	5,815	-1,321	-924	-29.4%	-20.6%	73,899	53,236	72.0%	24,952	99,700
Oct-Dec 02	4,190	4,869	-679	-529	-16.2%	-12.6%	67,964	47,428	69.8%	22,857	93,500
Year 2002	**17,299**	**20,629**	**-3,330**	**-3511**	**-19.2%**	**-20.3%**	**277,121**	**195,927**	**70.7%**	**94,143**	**93,500**
America West											
Year 2000	**2,344**	**2,357**	**-12,637**	**7,679**	**-539.1%**	**327.6%**	**43,580**	**30,741**	**70.5%**	**19,950**	**13,869**
Year 2001	**2,066**	**2,380**	**-316**	**-148**	**-15.3%**	**-7.2%**	**42,709**	**30,696**	**71.9%**	**19,576**	**13,827**
Jan-Mar 02	460	583	-123	-358	-26.7%	-77.8%	9,780	6,859	70.1%	4,303	
Apr-Jun 02	533	534	-1	-15	-0.2%	-2.8%	11,024	8,351	75.8%	5,080	
Jul-Sep 02	510	552	-42	-32	-8.2%	-6.3%	11,504	8,619	74.9%	5,165	12,320
Oct-Dec 02	522	560	-38	-32	-7.3%	-6.1%	11,154	8,160	73.2%	4,906	
Year 2002	**2,047**	**2,246**	**-199**	**-430**	**-9.7%**	**-21.0%**	**43,464**	**33,653**	**73.6%**	**19,454**	**13,000**
Continental											
Year 2000	**9,899**	**9,170**	**729**	**342**	**7.4%**	**3.5%**	**134,718**	**100,283**	**74.4%**	**45,139**	**45,072**
Year 2001	**8,969**	**9,119**	**-150**	**-95**	**-1.7%**	**-1.1%**	**135,962**	**98,393**	**72.4%**	**44,238**	**45,166**
Jan-Mar 02	1,993	2,180	-187	-166	-9.4%	-8.3%	30,498	22,582	74.0%	10,057	
Apr-Jun 02	2,192	2,307	-115	-139	-5.2%	-6.3%	33,108	24,922	74.6%	10,727	
Jul-Sep 02	2,178	2,132	46	-37	2.1%	-1.7%	33,839	25,625	75.0%	10,581	
Oct-Dec 02	2,036	2,094	-56	-109	-2.8%	-5.4%	31,496	22,382	70.6%	9,651	
Year 2002	**8,402**	**8,714**	**-312**	**-451**	**-3.7%**	**-5.4%**	**128,940**	**95,510**	**73.3%**	**41,014**	**43,900**
Delta											
Year 2000	**16,741**	**15,104**	**1,637**	**828**	**9.8%**	**4.9%**	**236,665**	**173,453**	**73.1%**	**105,591**	**79,584**
Year 2001	**13,879**	**15,124**	**-1,245**	**-1,216**	**-9.0%**	**-8.8%**	**237,914**	**163,693**	**68.8%**	**104,943**	**77,654**
Jan-Mar 02	3,103	3,538	-435	-397	-14.0%	-12.8%	54,298	37,384	68.9%	24,618	
Apr-Jun 02	3,474	3,601	-127	-186	-3.7%	-5.4%	60,709	42,355	73.4%	27,427	75,700
Jul-Sep 02	3,420	3,805	-385	-326	-11.3%	-9.5%	59,287	44,037	74.3%	27,713	76,000
Oct-Dec 02	3,308	3,670	-362	-363	-10.9%	-11.0%	56,776	40,419	71.2%	27,290	75,100
Year 2002	**13,305**	**14,614**	**-1,309**	**-1,272**	**-9.8%**	**-9.6%**	**228,068**	**172,735**	**71.9%**	**107,048**	**75,100**
Northwest											
Year 2000	**11,240**	**10,671**	**569**	**256**	**5.1%**	**2.3%**	**171,789**	**127,298**	**76.6%**	**56,836**	**53,131**
Year 2001	**9,905**	**10,773**	**-868**	**-423**	**-8.8%**	**-4.3%**	**158,284**	**117,682**	**74.3%**	**54,056**	**50,309**
Jan-Mar 02	2,180	2,376	-196	-171	-9.0%	-7.8%	35,022	26,611	76.0%	11,899	
Apr-Jun 02	2,406	2,452	-46	-93	-1.9%	-3.9%	39,848	29,902	78.9%		46,260
Jul-Sep 02	2,564	2,556	8	-46	0.3%	-1.8%	40,321	31,787	78.8%	14,365	45,466
Oct-Dec 02	2,339	2,951	-612	-488	-26.2%	-20.9%	37,115	27,611	74.4%	12,779	44,323
Year 2002	**9,489**	**10,335**	**-846**	**-798**	**-8.9%**	**-8.4%**	**150,355**	**115,913**	**77.1%**	**52,669**	**44,323**
Southwest											
Year 2000	**5,650**	**4,628**	**1,021**	**603**	**18.1%**	**10.7%**	**96,463**	**67,961**	**70.5%**	**72,568**	**28,752**
Year 2001	**5,555**	**4,924**	**631**	**511**	**11.4%**	**9.2%**	**105,079**	**71,604**	**68.1%**	**64,447**	**31,014**
Jan-Mar 02	1,257	1,207	49	21	3.9%	1.7%	26,586	16,726	62.9%	14,463	
Apr-Jun 02	1,473	1,284	189	102	12.8%	6.9%	29,074	20,314	69.9%	16,772	33,149
Jul-Sep 02	1,391	1,300	91	75	6.5%	5.4%	28,342	19,180	67.7%	16,256	
Oct-Dec 02	1,401	1,313	88	42	6.3%	3.0%	28,296	17,835	63.0%	15,554	33,705
Year 2002	**5,522**	**5,104**	**417**	**241**	**7.6%**	**4.4%**	**110,859**	**73,049**	**65.9%**	**63,046**	**33,705**
United											
Year 2000	**19,351**	**18,685**	**666**	**96**	**3.4%**	**0.5%**	**282,276**	**204,188**	**72.3%**	**83,853**	**100,976**
Year 2001	**16,138**	**18,481**	**-2,343**	**-2,145**	**-14.5%**	**-13.3%**	**265,291**	**187,701**	**70.8%**	**75,457**	**96,142**
Jan-Mar 02	3,288	3,999	-711	-510	-21.6%	-15.5%	55,056	39,761	72.2%	15,361	
Apr-Jun 02	3,793	4,278	-485	-341	-12.8%	-9.0%	60,315	44,896	74.4%	17,501	79,800
Jul-Sep 02	3,737	4,383	-646	-889	-17.3%	-23.8%	64,147	48,335	75.4%	18,900	79,900
Oct-Dec 02	3,468	4,462	-994	-1,473	-28.7%	-42.5%	59,988	43,158	71.9%	16,823	77,000
Year 2002	**14,286**	**17,123**	**-2837**	**-3,212**	**-19.9%**	**-22.5%**	**238,569**	**176,152**	**73.5%**	**68,585**	**78,700**
US Airways											
Year 2000	**9,268**	**9,322**	**-54**	**-269**	**-0.6%**	**-2.9%**	**106,999**	**75,358**	**70.4%**	**59,772**	**45,228**
Year 2001	**8,288**	**9,355**	**-1,067**	**-1,969**	**-12.9%**	**-23.8%**	**107,347**	**73,944**	**68.9%**	**56,114**	**43,846**
Jan-Mar 02	1,709	2,079	-370	-269	-21.7%	-15.7%	22,495	15,419	68.5%	11,825	
Apr-Jun 02	1,903	2,078	-175	-248	-9.2%	-13.0%	23,516	17,658	75.1%	13,000	
Jul-Sep 02	1,752	1,933	-181	-335	-10.3%	-19.1%	24,075	17,276	71.8%	11,994	33,302
Oct-Dec 02	1,614	2,217	-603	-794	-37.4%	-49.2%	20,631	14,096	68.3%	10,354	30,585
Year 2002	**6,977**	**8,294**	**-1,317**	**-1,646**	**-18.9%**	**-23.6%**	**90,700**	**64,433**	**71.0%**	**47,155**	**30,585**

Note: Annual figures may not add up to sum of interim results due to adjustments and consolidation. 1 ASM = 1.6093 ASK.

	Group revenue US$m	Group costs US$m	Group op. profit US$m	Group net profit US$m	Operating margin	Net margin	Total ASK m	Total RPK m	Load factor	Total pax. 000s	Group employees
Air France											
Year 2000/01	**11,148**	**10,746**	**402**	**382**	**3.6%**	**3.4%**	**119,562**	**93,355**	**78.1%**	**42,400**	**64,717**
Oct-Dec 01	2,682	2,785	-103	-121	-3.8%	-4.5%	30,070	20,907	70.6%		
Jan-Mar 02	2,667	2,647	20	1	0.7%	0.0%	29,703	22,925	77.2%		
Year 2001/02	**11,234**	**11,017**	**217**	**141**	**1.9%**	**1.3%**	**123,777**	**94,828**	**76.6%**		**70,156**
Apr-Jun 02	3,276	3,124	163	157	5.0%	4.8%	31,687	24,435	77.1%		
Jul-Sep 02	3,264	3,122	142	57	4.4%	1.7%	33,806	26,366	78.0%		71,290
Oct-Dec 02	3,396	3,392	4	2	0.1%	0.1%	32,581	24,558	75.4%		
Alitalia											
Year 2000	**4,968**	**5,210**	**-242**	**-236**	**-4.9%**	**-4.8%**	**57,483**	**41,433**	**72.1%**	**26,700**	**23,478**
Jan-Jun 01	2,348	2,504	-156	-228	-6.6%	-9.7%	26,437	18,953	71.7%	12,565	24,023
Jul-Dec 01	2,397	2,503	-106	-590	-4.4%	-24.6%	24,944	17,423	69.8%	12,204	
Year 2001	**4,745**	**5,007**	**-262**	**-818**	-5.5%	-17.2%	**51,392**	**36,391**	**70.8%**	**24,737**	**23,667**
Jan-Jun 02	2,462	2,574	-63	-49	-2.6%	-2.0%			69.7%		21,366
BA											
Year 2000/01	**13,700**	**13,139**	**561**	**189**	**4.1%**	**1.4%**	**162,824**	**116,674**	**71.7%**	**44,462**	**62,844**
Oct-Dec 01	2,616	2,882	-266	-205	-10.2%	-7.8%	35,449	23,106	65.2%	8,574	55,758
Jan-Mar 02	2,842	2,908	-66	-63	-2.3%	-2.2%	34,998	25,221	72.1%	8,831	
Year 2001/02	**12,138**	**12,298**	**-160**	**-207**	**-1.3%**	**-1.7%**	**151,046**	**106,270**	**70.4%**	**40,004**	
Apr-Jun 02	3,127	2,886	241	61	7.7%	2.0%	35,020	24,679	70.5%	9,665	52,926
Jul-Sep 02	3,323	2,931	392	240	11.8%	7.2%	35,608	27,301	76.7%	10,607	52,116
Oct-Dec 02	3,025	2,939	86	21	2.8%	0.7%	34,815	24,693	70.9%	9,200	51,171
Iberia											
Oct-Dec 01	1,086	1,118	-143	-88	-13.2%	-8.1%	14,275	9,698	67.9%	6,265	26,800
Year 2001	**4,240**	**4,236**	**4**	**45**	**0.1%**	**1.1%**	**59,014**	**41,297**	**70.8%**	**24,930**	
Jan-Mar 02	1,070	1,076	-9	-5	-0.8%	-0.5%	13,502	9,429	69.8%	5,916	
Apr-Jun 02	1,245	1,134	98	76	7.9%	6.1%	14,004	10,105	72.2%	6,726	
Jul-Sep 02	1,229	1,103	132	104	10.7%	8.5%	14,535	11,419	78.6%	6,624	
Oct-Dec 02	1,236	1,219	18	-17	1.5%	-1.4%	13,593	9,695	71.3%	5,689	25,544
KLM											
Year 2000/01	**6,319**	**6,068**	**251**	**70**	**4.0%**	**1.1%**	**75,222**	**60,047**	**79.8%**	**16,100**	**30,253**
Oct-Dec 01	1,291	1,358	-67	-82	-5.2%	-6.4%	17,030	12,483	73.3%		27,738
Jan-Mar 02	1,302	1,414	-112	-97	-8.6%	-7.5%	16,473	13,215	79.9%		
Year 20001/02	**5,933**	**6,018**	**-85**	**-141**	**-1.4%**	**-2.4%**	**72,228**	**56,947**	**78.7%**	**15,949**	**33,265**
Apr-Jun 02	1,639	1,599	40	11	2.4%	0.7%	18,041	14,326	79.4%		34,366
Jul-Sep 02	1,844	1,523	140	86	7.6%	4.7%	19,448	16,331	82.7%		34,931
Oct-Dec 02	1,693	1,760	-68	-71	-4.0%	-4.2%	19,063	14,722	77.2%		34,850
Lufthansa											
Year 2000	**14,014**	**12,648**	**1,366**	**635**	**9.7%**	**4.5%**	**123,801**	**92,160**	**74.4%**	**47,000**	**69,523**
Oct-Dec 01	3,437	3,674					28,293	18,854	67.4%	9,873	
Year 2001	**14,966**	**14,948**	**18**	**-530**	**0.1%**	**-3.5%**	**126,400**	**90,389**	**71.5%**	**45,710**	**87,975**
Jan-Mar 02	3,556	3,513	43	-165	1.2%	-4.6%	26,451	19,409	71.0%	9,700	
Apr-Jun 02	4,968	4,601	285	138	5.7%	2.8%	30,769	22,835		11,300	90,308
Jul-Sep 02	4,431	4,254	454	369	10.2%	8.3%	32,409	25,189	71.1%	12,067	90,704
SAS											
Year 2000	**5,185**	**4,853**	**332**	**233**	**6.4%**	**4.5%**	**33,782**	**22,647**	**67.0%**	**23,240**	**22,698**
Oct-Dec 01	1,208	1,316	-108	-108	-8.9%	-8.9%	8,509	5,097	59.9%	5,300	
Year 2001	**4,984**	**5,093**	**-109**	**-103**	-2.2%	-2.1%	**35,521**	**22,956**	**64.6%**	**23,060**	**22,656**
Jan-Mar 02	1,392	1,534	-142	-133	-10.2%	-9.6%	8,228	5,229	63.1%	5,091	
Apr-Jun 02	1,965	1,608	242	106	12.3%	5.4%	8,773	6,240	71.1%	6,034	
Jul-Sep 02	1,821	1,587	233	56	12.8%	3.1%	8,701	6,281	70.2%	5,586	21,896
Oct-Dec 02	1,984	1,826	158	-34	8.0%	-1.7%	8,334	5,463	65.6%	5,155	
Ryanair											
Year 2000/01	**442**	**338**	**104**	**95**	**23.5%**	**21.5%**	**6,657**	**4,656**	**69.9%**	**7,000**	**1,476**
Oct-Dec 01	122	97	25	26	20.5%	21.3%	2,304		79.0%	2,700	
Jan-Mar 02	220	165	55	50	25.0%	22.7%	2,352				
Year 2001/02	**642**	**474**	**168**	**155**	**26.2%**	**24.1%**	**10,295**	**7,251**	**81.0%**	**11,900**	**1,547**
Apr-Jun 02	189	153	47	40	24.9%	21.2%	2,852		83.0%	3,540	
Jul-Sep 02	272	149	123	113	45.2%	41.5%	3,138			4,300	1,676
Oct-Dec 02	201	149	53	47	26.4%	23.4%			86.0%	3,930	1,761
easyJet											
Oct 00-Mar 01	210	225	-15	-15	-7.1%	-7.1%	3,908		80.6%	3,200	
Apr-Sep 01	314	273	41	41	13.1%	13.1%				3,915	
Year 2000/01	**513**	**455**	**58**	**54**	**11.3%**	**10.5%**	**7,003**	**5,903**	**83.0%**	**7,115**	**1,632**
Oct-Mar 02	285	279	6	1	2.1%	0.4%	4,266		84.2%	4,300	
Apr-Sep 02	579	474	105	76	18.1%	13.1%	6,503			7,050	
Year 2001/02	**864**	**656**	**111**	**77**	**12.8%**	**8.9%**	**10,769**	**9,218**	**84.8%**	**11,350**	**3,100**

Note: Annual figures may not add up to sum of interim results due to adjustments and consolidation. 1 ASM = 1.6093 ASK

	Group revenue US$m	Group costs US$m	Group op. profit US$m	Group net profit US$m	Operating margin	Net margin	Total ASK m	Total RPK m	Load factor	Total pax. 000s	Group employees
ANA											
Apr-Sep 00	5,228	4,793	495	359	9.5%	6.9%	47,586	31,753	66.7%	24,958	
Oct 00-Mar 01	5,376	5,186	190	-486	3.5%	-9.0%	46,278	29,168	63.0%	24,471	
Year 2000/01	**10,914**	**10,629**	**285**	**-137**	**2.6%**	**-1.3%**	**85,994**	**58,710**	**68.3%**	**43,700**	**14,303**
Apr-Sep 01	5,168	4,811	357	136	6.9%	2.6%	45,756	30,790	67.3%	25,876	
Oct 01-Mar 02											
Year 2001/02	**9,714**	**9,529**	**185**	**-76**	**1.9%**	**-0.8%**	**87,908**	**57,904**	**64.7%**	**49,306**	
Cathay Pacific											
Year 2000	**4,431**	**3,752**	**679**	**642**	**15.3%**	**14.5%**	**61,909**	**47,153**	**76.2%**	**11,860**	**14,293**
Jan-Jun 01	2,031	1,898	133	170	6.5%	8.4%	32,419	23,309	71.9%	5,936	
Jul-Dec 01	**1,871**	**1,897**	**-26**	**-86**	-1.4%	-4.6%	30,371	21,497	70.8%	5,378	
Year 2001	**3,902**	**3,795**	**107**	**84**	**2.7%**	**2.2%**	**62,790**	**44,792**	**71.3%**	**11,270**	**15,391**
Jan-Jun 02	1,989	1,753	235	181	11.8%	9.1%	29,537		78.1%		14,300
JAL											
Year 1999/00	**14,442**	**14,039**	**403**	**177**	**2.8%**	**1.2%**	**119,971**	**88,479**	**70.2%**	**37,200**	**18,974**
Year 2000/01	**13,740**	**13,106**	**634**	**331**	**4.6%**	**2.4%**	**129,435**	**95,264**	**73.6%**	**38,700**	**17,514**
Year 2001/02	**9,607**	**9,741**	**-135**	**-286**	**-1.4%**	**-3.0%**				**37,183**	
Korean Air											
Year 2000	**4,916**	**4,896**	**20**	**-409**	**0.4%**	**-8.3%**	**55,824**	**40,606**	**72.7%**	**22,070**	**16,000**
Year 2001	**4,309**	**4,468**	**-159**	**-448**	**-3.7%**	**-10.4%**					
Jan - Mar 02	1,113	1,060	54	23	4.9%	2.1%	13,409	9,799	73.1%	5,399	
Malaysian											
Year 1999/00	**2,148**	**2,120**	**28**	**-68**	**1.3%**	**-3.2%**	**48,158**	**34,930**	**71.3%**	**15,370**	**21,687**
Year 2000/01	**2,357**	**2,178**	**179**	**-351**	**7.6%**	**-14.9%**	**52,329**	**39,142**	**74.8%**	**16,590**	**21,518**
Qantas											
Year 1999/00	**5,710**	**5,162**	**548**	**324**	**9.6%**	**5.7%**	**85,033**	**64,149**	**75.4%**	**20,490**	**29,217**
Jul-Dec 00	2,745	2,492	224	142	8.2%	5.2%	46,060	35,451	77.0%	11,175	31,382
Year 2000/01	**5,473**	**5,099**	**374**	**223**	**6.8%**	**4.1%**	**92,943**	**70,540**	**75.9%**	**22,150**	**31,632**
Jul-Dec 01	3,050	2,904	125	84	4.1%	2.8%	48,484	37,262	76.9%	13,335	32,361
Year 2001/02	**6,133**	**5,785**	**348**	**232**	**5.7%**	**3.8%**	**95,944**	**75,134**	**78.3%**	**27,128**	**33,044**
Singapore											
Year 2000/01	**5,729**	**4,954**	**775**	**892**	**13.5%**	**15.6%**	**92,648**	**71,118**	**76.8%**	**15,000**	**14,254**
Apr-Sep 01	2,592	2,329	263	90	10.1%	3.5%	48,058	36,091	75.1%		
Oct 01-Mar 02	2,807	2,508	299		10.7%		46,501	33,904			
Year 2001/02	**5,399**	**4,837**	**562**	**395**	**10.4%**	**7.3%**	**94,559**	**69,995**	**74.0%**	**14,765**	
Apr 02-Sep 02	2,278	2,134	144	289	6.3%	12.7%	49,196	37,799	76.8%	7,775	14,252

Note: Annual figures may not add up to sum of interim results due to adjustments and consolidation. 1 ASM = 1.6093 ASK.

AIRCRAFT SOLD OR LEASED

	Old narrowbodies	Old widebodies	Total old	New narrowbodies	New widebodies	Total new	Total
1998	482	243	725	795	127	922	1,647
1999	582	230	812	989	170	1,159	1,971
2000	475	205	680	895	223	1,118	1,798
2001	286	142	428	1,055	198	1,253	1,681
2002 - Dec	52	8	60	122	17	139	199

AIRCRAFT AVAILABLE FOR SALE OR LEASE

	Old narrowbodies	Old widebodies	Total old	New narrowbodies	New widebodies	Total new	Total
1998	187	125	312	67	55	122	434
1999	243	134	377	101	53	154	531
2000	302	172	474	160	42	202	676
2001	368	188	556	291	101	392	948
2002 - Dec	366	144	510	273	102	375	885

Source: *BACK* **Notes:** *As at end year; Old narrowbodies = 707, DC8, DC9, 727,737-100/200, F28, BAC 1-11, Caravelle; Old widebodies = L1011, DC10, 747-100/200, A300B4; New narrowbodies = 737-300+, 757. A320 types, BAe 146, F100, RJ; New widebodies = 747-300+, 767, 777. A600, A310, A330, A340.*

EUROPEAN SCHEDULED TRAFFIC

	Intra-Europe			North Atlantic			Europe-Far East			Total long-haul			Total Int'l		
	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 %
1994	144.7	87.7	60.6	150.3	108.8	72.4	102.8	76.1	74	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	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
1999	200.0	124.9	62.5	218.9	166.5	76.1	134.5	103.1	76.7	492.3	371.0	75.4	727.2	519.5	71.4
2000	208.2	132.8	63.8	229.9	179.4	78.1	137.8	108.0	78.3	508.9	396.5	77.9	755.0	555.2	73.5
2001	212.9	133.4	62.7	217.6	161.3	74.1	131.7	100.9	76.6	492.2	372.6	75.7	743.3	530.5	71.4
Dec-02	15.7	8.9	57.3	14.6	11.2	76.7	11.0	8.3	75.7	37.8	28.8	76.3	56.4	39.7	70.4
Ann. chng	7.5%	8.8%	0.7	10.3%	18.2%	5.1	4.2%	7.9%	2.6	4.8%	9.5%	3.3	5.8%	9.7%	2.5
Jan-Dec 02	197.2	129.3	65.6	181.0	144.4	79.8	129.1	104.4	80.9	447.8	355.1	79.3	679.2	507.7	74.7
Ann. chng	-9.3%	-4.5%	3.2	-14.2%	-7.6%	5.7	-5.0%	0.2%	4.2	-8.7%	-4.4%	3.6	-9.0%	-4.5%	3.5

Source: AEA

US MAJORS' SCHEDULED TRAFFIC

	Domestic			North Atlantic			Pacific			Latin America			Total Int'l		
	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 %
1994	886.9	575.6	64.9	136.1	99.5	73.0	107.3	78.2	72.9	56.8	35.2	62	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	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	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	960.8	678.8	70.7	150.5	117.8	78.3	112.7	82.5	73.2	83.5	52.4	62.8	346.7	252.7	72.9
1999	1,007.3	707.5	70.2	164.2	128.2	78.1	113.2	84.7	74.8	81.3	54.3	66.8	358.7	267.2	74.5
2000	1,033.5	740.1	71.6	178.9	141.4	79.0	127.7	97.7	76.5	83.0	57.6	69.4	380.9	289.9	76.1
2001	1,025.4	712.2	69.5	173.7	128.8	74.2	120.1	88.0	73.3	83.4	56.9	68.2	377.2	273.7	72.6
Jan - 03	81.0	53.0	65.5	12.2	8.4	68.6	8.9	7.2	80.4	7.4	5.3	71.3	28.6	20.8	73
Ann. chng	2.6%	6.0%	2.1	5.4%	6.5%	0.7	10.7%	8.0%	-2.0	4.8%	5.0%	0.1	6.8%	6.6%	-0.2

Note: US Majors = Aloha, Alaska, American, Am. West, American Transair, Continental, Cont. Micronesia, Delta, Hawaiian JetBlue, MidWest Express, Northwest,Southwest, United and US Airways **Source**: ATA

JET ORDERS

	Date	Buyer	Order	Price	Delivery	Other information/engines
Boeing	Jan 31	CITLease Corp	1 737-800			CFM56-7
	Feb 5	Cargolux	1 747-400F			Rolls-Royce RB211
Airbus	Feb 11	JetBlue	2 A320s		4Q03	converted options
	March 4	Air Hong Kong	6 A300-600F		2H04-1Q05	plus 4 options

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

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 %
1993	1,349	855	63.3	1,785	1,205	67.5	3,135	2,060	65.7	3.4	2.0	4.4	4.8	3.9	3.6
1994	1,410	922	65.3	1,909	1,320	69.1	3,318	2,240	67.5	4.6	7.9	6.9	9.4	5.9	8.8
1995	1,468	970	66.1	2,070	1,444	69.8	3,537	2,414	68.3	4.1	5.4	8.5	9.4	6.6	7.8
1996	1,540	1,043	67.7	2,211	1,559	70.5	3,751	2,602	79.4	4.9	7.4	6.8	8.0	6.0	7.8
1997	1,584	1,089	68.8	2,346	1,672	71.3	3,930	2,763	70.3	2.9	4.5	6.1	7.2	4.8	6.1
1998	1,638	1,147	70.0	2,428	1,709	70.4	4,067	2,856	70.3	3.4	5.2	3.5	2.2	3.4	3.4
1999	1,911	1,297	67.9	2,600	1,858	71.5	4,512	3,157	70.0	5.4	5.0	5.7	7.4	5.6	6.4
2000	2,005	1,392	69.4	2,745	1,969	71.8	4,750	3,390	70.8	4.9	7.2	5.6	6.0	5.3	6.5
***2001**							4,698	3,262	69.4					-1.1	-3.9
***2002**							4,607	3,294	71.1					-1.9	0.4
***2003**							4,903	3,584	73.1					6.4	9.4
***2004**							5,154	3,819	74.1					5.1	6.6

*Note: * = Forecast; ICAO traffic includes charters. Source: Airline Monitor, June 2002*

Aviation Economics

The Principals and Associates of *Aviation Economics* apply a problem-solving, creative and pragmatic approach to commercial aviation projects.

Our expertise is in strategic and financial consulting in Europe, the Americas, Asia, Africa and the Middle East, covering:

- Start-up business plans
- Antitrust investigations
- Credit analysis
- Privatisation projects
- Asset valuations
- Turnaround strategies
- Merger/takeover proposals
- Corporate strategy reviews
- IPO prospectuses
- E&M processes
- State aid applications
- Competitor analyses
- Market forecasts
- Cash flow forecasts
- Distribution policy

For further information please contact:

Tim Coombs or Keith McMullan

Aviation Economics

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

Tel: + 44 (0)20 7490 5215 Fax: +44 (0)20 7490 5218

e-mail:kgm@aviationeconomics.com

SUBSCRIPTION FORM

Please enter my Aviation Strategy subscription for:

☐ **1 year (11 issues-Jul/Aug combined) @ £390 / €625 / US$625, starting with the ____________ issue**

(Discounts available for multiple subscriptions - please call for details)

Delivery address

Name ____________

Position ____________

Company ____________

Address ____________

____

____

Country ____________ **Postcode** ____________

Tel ____________ **Fax** ____________

e-mail ____________

DATA PROTECTION ACT

The information you provide will be held on our database and may be used to keep you informed of our products and services or for selected third party mailings

☐ **I enclose a Sterling, Euro or US Dollar cheque, made payable to: Aviation Economics**

☐ **Please invoice me**

☐ **Please charge my AMEX/Mastercard/Visa credit card**

Card number ____________

Name on card ____________ Expiry date ______

☐ **I am sending a direct bank transfer of £390 net of all charges to Aviation Economics' account:** HSBC Bank Sort code: 40 04 37 Account no: 91256904

Invoice address (if different from delivery address)

Name ____________

Position ____________

Company ____________

Address ____________

____

____

Country ____________ Postcode ____________

PLEASE RETURN THIS FORM TO:

Aviation Economics
James House, LG
22/24 Corsham Street
London N1 6DR
Fax: +44 (0)20 7490 5218