

2014 Outlook

As always at this time of year we ask the question “where are we in the aviation cycle?” As usual we get conflicting answers. IATA recently upgraded its financial forecasts for the industry. The Geneva-based industry organisation is now looking for the global industry to produce net profits of \$12bn in 2013 and nearly \$20bn in 2014 – raising its forecasts by 10% in the current year and by 20% in the next. These figures still only represent industry-wide net margins of 1.8% and 2.6% respectively.

It is always difficult forecasting global industry profits; because margins are so low and there are so many elements to operations outside the control of individual airlines, any small change in a major or minor forecast assumption can have a huge impact on the net bottom line. In the end it appears that Brian Pearce and his team have slightly tweaked their forecast on the basis of slightly lower fuel price expectations and what they term as improved efficiency in the industry seen in the quarterly results so far this year.

On a regional basis IATA is estimating that North America will produce 45% of industry profits in 2013 and 42% of the total in 2014 with operating margins in the region nearing 6.5% on that year. This compares with profits for the region of \$4.2bn in 2010, or 21% of the industry total (albeit at operating margins in that year of 5.7%). IATA implicitly highlights the consolidation in the US and on the Atlantic as one of the main reasons for the improvement in outlook, along with an improved US economic outlook.

For Europe IATA is suggesting that net profits will quadruple to \$1.7bn in 2013 and nearly double again in 2014 to \$3.2bn (respectively reflecting operating margins of 1.3% and 2.0%). Although here the legacy carriers in particular are hampered by weak home markets in the Eurozone and on its periphery, the performance of the ATI joint ventures on the Atlantic are ex-

pected to improve profitability. In the Asia-Pacific region, however, it anticipates a reduction in profitability to \$3.2bn in the current year down from \$4bn in 2012 before recovering to \$4.2bn in 2014.

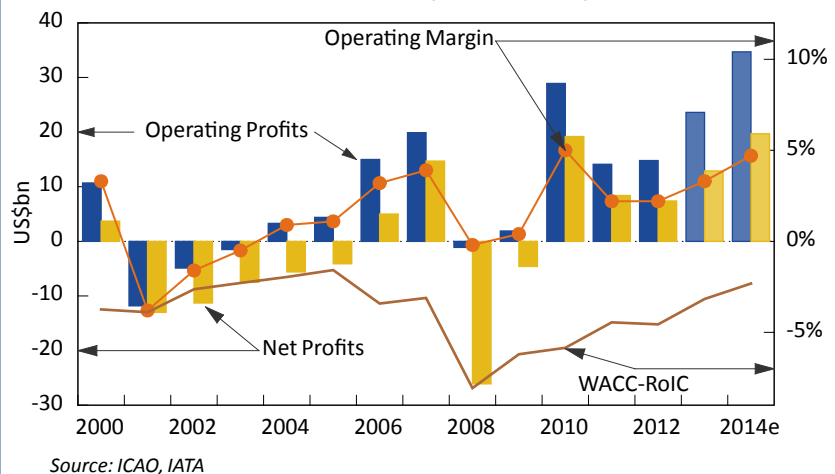
For the Middle East the forecasts suggest an average growth in net profits of 50% a year between 2012

and 2014 to \$1.6bn in that year showing the impact of the increasing power of the three Super-connectors. In Latin America it is forecasting profits of \$700m in the current year, up from a loss in 2012 of \$200m and

This issue includes

	Page
Hainan Airlines targets international	3
Emirates again signals its intent to dominate	7
UAL: the challenge of catching up with Delta and American	11
Business Jets: The alternative aviation universe	15
Long-term premium traffic trends	18
Freighter values and lease rates	19

Airline Industry Profits Cycle



Aviation Strategy

Aviation Strategy

ISSN 2041-4021 (Online)

This newsletter is published ten times a year by Aviation Strategy Limited. Jan/Feb and Jul/Aug usually appear as combined issues.

Our editorial policy is to analyse and cover contemporary aviation issues and airline strategies in a clear, original and objective manner. Aviation Strategy does not shy away from critical analysis, and takes a global perspective – with balanced coverage of the European, American and Asian markets.

Publisher:

Keith McMullan
James Halstead

Editorial Team

Keith McMullan
kgm@aviationstrategy.aero
James Halstead
kgm@aviationstrategy.aero
Heini Nuutinen
hn@aviationstrategy.aero
Nick Moreno
nm@aviationstrategy.aero

Tel: +44(0)207-490-4453
Fax: +44(0)207-504-8298

Subscriptions:

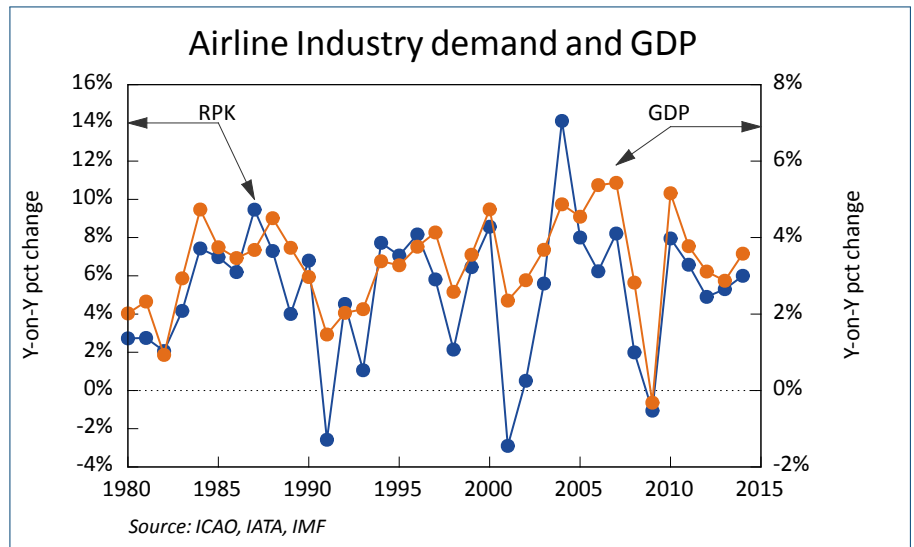
info@aviationstrategy.com

Copyright:

©2013. All rights reserved

Aviation Strategy Ltd
Registered No: 8511732 (England)
Registered Office:
137-149 Goswell Rd
London EC1V 7ET
VAT No: GB 162 7100 38
ISSN 2041-4021 (Online)

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 responsibility 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 form, without the written consent of the publisher.



profits doubling again next year. This again is no doubt predicated on the consolidation moves in South America following the mergers of Lan Chile and TAM and Avianca/TACA. As for Africa, results around break-even are expected for both years.

Of course one of the principal drivers for the industry is economic performance and at least here some of the risks that had been lurking in the background in the past two years seem to be receding. The latest *World Economic Outlook* from the IMF shows encouraging development in the US over the next few years with prospects of GDP growth there approaching 3.5% by 2016. Europe while somewhat lacklustre as a whole also seems to be showing a modest return to growth of around 2% in the medium term – although the Eurozone still has its problems and 2013 is likely to have continued in recession.

The two-speed development of the world economy in the last few years – with significantly higher growth in the developing world (and in particular the BRICs) and very lacklustre performance in the developed – appears to show some convergence. China's economy in particular is seen to be slowing to-

wards an annual 7% rate of growth in the expectation that it will need to foster domestic consumption, while that of India is projected to be able to accelerate towards 7% by 2018. Overall world GDP growth in 2013 is expected to show an increase slightly below 2012's 3.2% but start to accelerate to over 4% by 2016.

Does it really feel as if we are in recovery towards the next peak in the cycle? The airline industry has shown in the past few years how resiliently it can recover from major shocks to its income base (the economy) and its cost base (fuel) – it just never seems to make much money as an industry overall. IATA once again presented the value gap between weighted average cost of capital and the industry-wide returns showing that airline shareholders continue to pay passengers to fly. Of course it can be dangerous to look at the industry as a whole; there are some airlines that do make money and with the largest carriers in the consolidated US market and the consolidating European market pursuing positive returns above WACC into 2015 it is possible that this upturn could be longer than we currently expect.

Hainan Airlines targets international; Parent HNA targets the world

TWENTY years after it was launched, Hainan Airlines has firmly established itself as the fourth Chinese carrier behind the Big Three of Air China, China Southern and China Eastern. Now, however, Hainan Airlines is focussing on international expansion in an effort to catch-up with the Big Three globally.

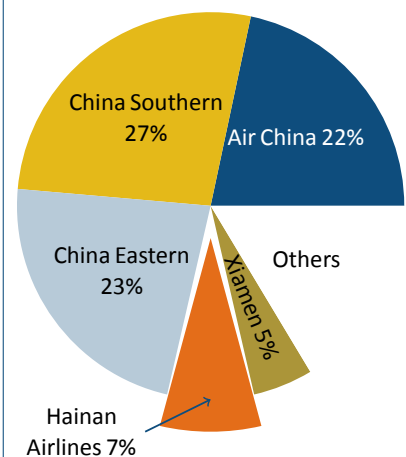
Based at Haikou in Hainan province (an island off the south coast of China), Hainan Airlines is listed on the Shanghai stock exchange but is part of the Chinese conglomerate HNA Group, which has stakes in various aviation, travel, logistics and finance businesses. Those include Haikou Meilan International airport (at which Hainan Airlines is based), and majority or minority stakes in carriers such as Grand China Air (which in turn combines the operations of three other Chinese carriers – Xinhua Airlines, Chang’an Airlines and Shanxi Airlines), Hong Kong

Airlines, Hong Kong Express Airways, Tianjin Airlines, Lucky Air, West Air, Yangtze River Express, myCargo in Turkey, AWA in Ghana and Aigle Azur in France.

Some of these stakes are held directly by the HNA Group and some by Hainan Airlines, and to complicate matters further there are a complex series of cross-shareholdings between the shareholders in Hainan Airlines, Hainan Airlines’ subsidiaries and the other aviation assets owned by the HNA Group (for further details see *Aviation Strategy*, Jan/Feb 2012). Cross-shareholdings are typical of doing business in China, though it can make ultimate ownership and control of entities somewhat difficult to unravel.

In 2012 Hainan Airlines saw its revenue rise by 9.9% to US\$3.7bn as passengers carried rose 10% to 22.6m, but operating profit fell 37.6% to US\$257m and net profit dropped by 31.4% to US\$251m. However, that

China: Passenger market shares 2012

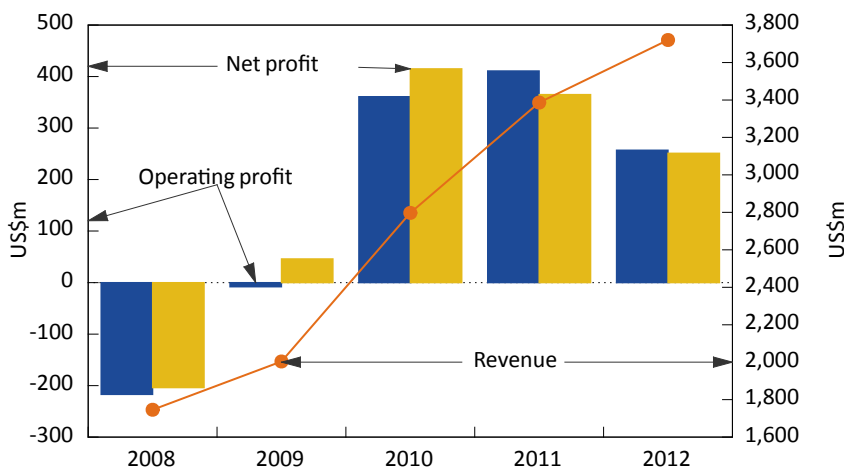


Source: CAAC, Company Reports

result needs to be compared to the Big Three – in 2012 China Southern saw net profit fall 48.2% to US\$384m, Air China’s net profit fell 33.8% to US\$638m and China Eastern saw a 29.8% decline to US\$442m – as the entire Chinese aviation sector suffered from the global economic recession and rising fuel prices in 2012.

Today Hainan Airlines flies more than 500 routes to around 60 destinations in China and more than 25 internationally, including Brussels, Dubai, Luanda, Seattle, Toronto, Moscow, St. Petersburg, Irkutsk, Chita and Almaty. Hainan operates out of nine bases in China, at Beijing, Haikou, Guangzhou, Shenzhen, Dalian, Lanzhou, Urumqi, Xi’an and Taiyuan using a 129-strong fleet (with an average age of less than six years) comprising 95 737-800s, five 737-700s, two 737-300s, two 737-400s, three 767-300ERs, four

Hainan Airlines’ financial results



Aviation Strategy

787-8s, 15 A330s and three A340s.

There are 26 aircraft on firm order – 20 COMAC C919s and six 787-8s. The C919s are being built by the Commercial Aircraft Corporation of China (COMAC) as part of the Chinese state's attempt to break the duopoly of Airbus and Boeing. The C919 will have a range of 4,075 kilometres and capacity of between 156 and 174 seats, with the first aircraft forecast to roll off production lines sometime in late 2016 – if all goes to schedule. Just under 400 of the type are on firm order, although all but 20 of these have been placed by Chinese airlines or lessors. The exception, with an order for 20 C919s, is GECAS – though this could be seen as an astute political move in a market that is so important to the giant US lessor.

The HNA Group placed an order for ten 787s destined for Hainan Airlines back in 2005, but ongoing delays from the original delivery date of 2008 were followed by the lithium-ion battery problem earlier this year. Delivery to Hainan was postponed yet again when the Chinese authorities delayed issuing an airworthiness certificate for the model. As a result, completed Hainan 787s were parked

in the US while frantic efforts were made to get the certificate issued.

Once that was done, Hainan received its first 787 from Boeing in July this year, becoming the second Chinese airline to receive the model (the first was China Southern, a few weeks earlier). Hainan's 787s are configured with 36 business class and 177 economy seats and were used initially on a three month trial basis on domestic trunk routes from Beijing to Haikou, Chengdu and Shanghai.

International focus

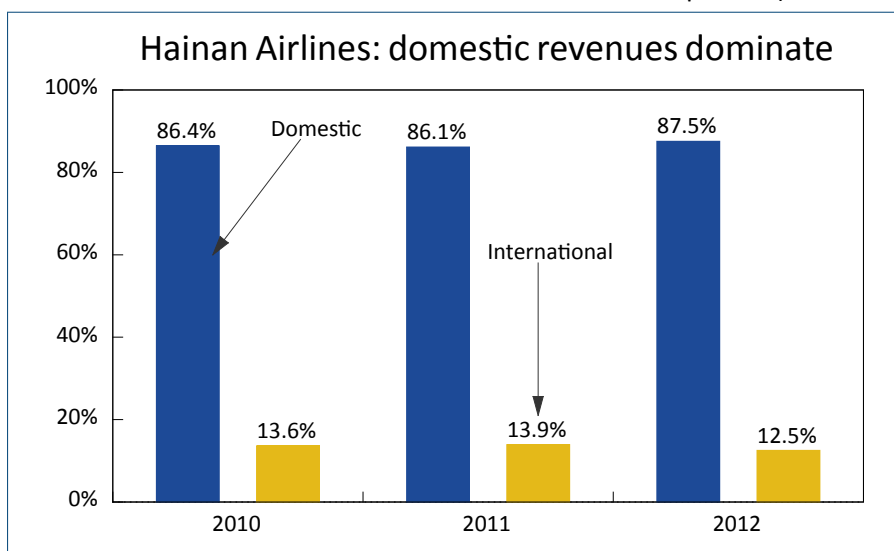
The 787s are now being used as the spearhead for Hainan's international expansion. In 2012 87.5% of Hainan Airlines' revenue came from domestic routes, and this proportion actually increased compared with 2011 (see chart below). Hainan's strategy is to reduce that reliance and build the airline into what it sees as a "premium brand" that can compete with the Big Three on the prestigious (and lucrative) international routes, in particular transferring its reputation for higher service standards domestically onto international services (where the standards of the Big Three are nowhere near those of their western competitors).

The first international service to use a 787 was a non-stop route Hainan launched between Beijing and Chicago in September 2013. It initially used A340s on a twice-a-week service before doubling the weekly flights when it switched to 787s in December (before becoming a daily service from June 2014).

North America is a key market for Hainan, which is targeting both business and leisure passengers to/from China. Until this year Hainan operated only to Seattle and Toronto in North America, but after Chicago it will launch a route between Beijing and Boston in June 2014, to be operated four times a week using 787s, while in the same month a twice weekly Beijing-New York Newark service will launch, again using 787s, although this service faces competition on the route from United, with Air China also operating from Beijing to New York JFK.

Hainan is particularly keen to add non-stop transpacific destinations that aren't already served by the Big Three, and Boston is in this category – and with a large Chinese student population studying in colleges in New England it is seen by Hainan as being underserved (the only other non-stop route into Asia is from Japan Airlines on Tokyo-Boston). Even the Big Three operate relatively few non-stop routes into North America, and Chinese business and leisure travellers often travel there via Hong Kong or Seoul.

North America is not the sole focus of its international ambitions – over the summer a weekly charter service was commenced between Haikou and Donetsk in the Ukraine, primarily aimed at Russian tourists to Hainan island (which has a tropical climate), while a Beijing-Bombay-



Aviation Strategy

Nairobi service will start in August 2014.

As with all the international airlines operating out of China, a key challenge facing Hainan is a shortage of experienced flight crews, which has significantly inflated pilot pay in China. More specific to Hainan though is the problem of securing international traffic rights; the airline does not have the same political clout nor government backing that the Big Three do, and it has to fight very hard to secure access to anything other than secondary destinations abroad. On the other hand, Hainan has an advantage in that the Big Three's hubs at Beijing, Shanghai and Guangzhou are all close to full capacity whereas Haikou has spare capacity. Indeed, a new international terminal with 10 aircraft stands opened at Haikou Meilan International in August.

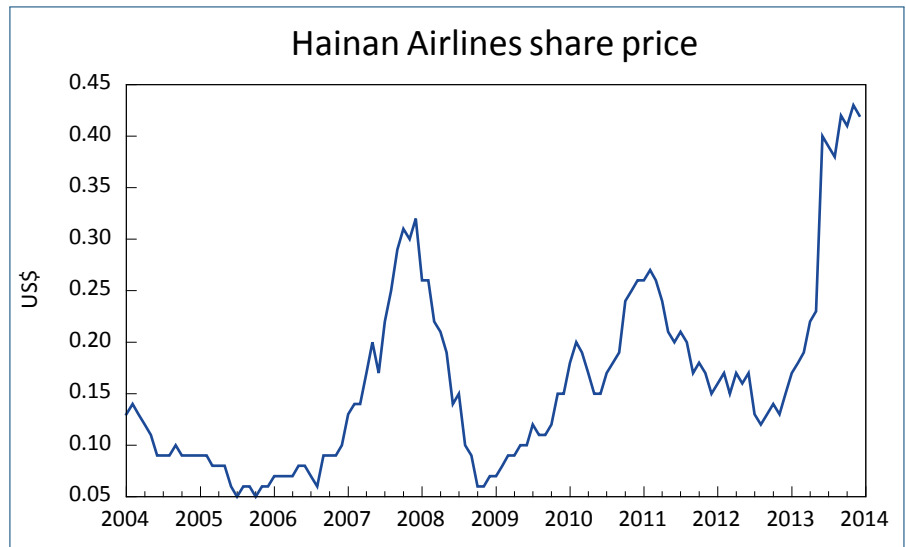
Prospects

The future of Hainan Airlines is of course dependent on the wishes of its parent, the HNA Group, and its ever-changing shuffling of its aviation assets and new acquisitions. For example, so far this year:

✈ HNA bought the 49% stake it did not own in cargo operator Yangtze River Express (which has 12 Airbus and Boeing aircraft), with the airline thereafter becoming a 100% subsidiary of Hainan Airlines.

✈ In May Hainan Airlines invested \$216m into Tianjin Airlines to increase its stake to 30.7%, and added another 14% in the carrier in October after buying that stake for US\$141m from parent HNA Group, lifting its total shareholding to 44.7%.

✈ In December 2013 Hainan Airlines announced it was buying a 52.9% stake in Yunnan-based Lucky Air for US\$219m from Grand Air



China, which added to its existing stake in Lucky Air will bring its total holding to 86.7% (with the rest owned by the Yunnan provincial government). Lucky Air operates 18 737s and A320 family aircraft on domestic routes.

Earlier this year HNA Group also stated it wanted to launch five new airlines in China – Urumqi Airlines, Heilongjiang Airlines, Chang'an Airlines, Fuzhou Airlines and Guangxi Airlines. Each of these would be substantial start-up; for example, the airline in Urumqi – the capital city of the Xinjiang region – is getting US\$271m from HNA for a 70% stake, with 30% going to the Urumqi city government in exchange for US\$116m. The launch of these carriers will again undoubtedly impact on Hainan Airline's domestic strategy.

The HNA Group is becoming particularly active in encouraging the LCC business model. HNA is investing US\$129m to increase its stake in Chongqing-based West Air to 29.4% and fund a transformation of the airline into a LCC. West Air is increasing its daily utilisation rate (which reached 12 hours in the first half of the year), stripping out costs and increasing its ancillary revenues at the

same time as expanding its fleet from 10 to a targeted 100-strong fleet. The only true LCC in China is Shanghai-based Spring Airlines (with 38 A320s), but West Air will be also joined by another LCC Hong Kong Express Airways – which is also owned by the HNA Group.

Chen Feng, HNA Group chairman, says the rise of LCCs in China is inevitable even though the Chinese aviation industry has been painfully slow to adopt the business model – but that has primarily been because the state has “protected” the industry from competition from foreign LCCs on all but a handful of routes. Moreover, domestic high-speed trains are stealing customers away from short-haul domestic services. However, the Chinese government now says it will introduce measures that will aid the rise of LCCs, such as reforming airport slot allocation, cutting administrative red tape and easing restrictions on imported aircraft. The government is also building 70 new airports in the 2011-2015 five year plan, with the total number of airports set to reach almost 250 by 2020. Most crucially of all, in May the government lifted a ban against the launch of independent airlines that had been imposed

Aviation Strategy

in 2007 to protect state-owned airlines. All these measures are likely to encourage a flurry of LCCs in the next few years, and the HNA Group wants to establish its own low cost airlines before others arrive.

The HNA Group also has international ambitions – it bought a 48% stake in Paris-based Aigle Azur in October 2012 (the first time a Chinese entity had invested in a European airline), and will use that airline's traffic rights to launch a service between Beijing and Paris Orly from June 2014 using A330s wet-leased from Hainan Airlines. The three times a week service will compete against Air China and Air France routes between Beijing and Paris CDG. And in October rumours circulated in Italy that the HNA Group was interested in acquiring Alitalia, though this was denied by the Chinese. In December it was reported that HNA had agreed to buy a 35% stake in Cargolux (this was stake formerly held by Qatar Airways before a dispute with Cargolux management

led to Qatar exiting).

There is some opaqueness surrounding the financial situation at the HNA Group. The conglomerate has been expanding rapidly for a while, investing in everything from property in New York City to Spanish-based NH Hoteles, and it is reported to be heavily indebted thanks to moves into the shipping industry that haven't been too successful.

Hainan Airlines itself has substantial amounts of debt – US\$3bn of long-term debt and US\$2bn of short-term borrowings as at December 31st 2012 – and its interest costs of US\$470m were almost twice as large as its net profit in 2012.

Hainan Airlines has no direct influence on the strategy of the HNA Group, and can only concentrate on its international expansion. In the first three quarters of 2013 Hainan Airlines recorded a 3% rise in revenue to US\$2.9bn, with net profit up by 28.4% year-on-year to US\$281m. Though no figures are available for Q1-Q3, in

January-June 2013 period Hainan carried 12.5m passengers, 13.4% up on the first half of 2012, with load factor up by 0.9 percentage points to 84.6%.

While the July-September period is traditionally the most profitable quarter for Chinese airlines as it is the peak travel season, Hainan Airlines particularly benefited from currency gains from a stronger Yuan as well as the replacement of business tax with value added tax in China. Those external factors alone accounted for US\$116m of the net profit in the January to September period for Hainan.

Investors in Hainan Airlines have seen a reasonably steady recovery in the share price since the slide of 2008 (see chart, page 5; the data is adjusted for a recent stock split), but the future may be more volatile given the investments the carrier will need to keep on making in order to build up a strong international presence to truly rival that of the Big Three.

SEASONS GREETINGS

To all readers and subscribers to Aviation Strategy

To all our Consultancy Clients

We wish you all an enjoyable Christmas

and a most prosperous 2014

Emirates again signals its intent to dominate

AT the Dubai air show in November Emirates placed the largest ever order in aviation history – for 200 aircraft worth almost \$100bn at list prices – as it targets 100m passengers carried annually by 2025. Is there anything that can stop Emirates' planned dominance of long-haul markets?

The growth of Emirates is relentless. In the 2012/13 financial year (ending March 31st) the Emirates Group recorded its 25th consecutive year of profit (having made a loss in just one year since launching), with revenue up 17.2% year-on-year to AED 77.5bn (US\$21.1bn) based on a 15.9% increase in passengers carried to 39.4m. Even more impressively, in 2012/13 Group operating profit rose 40.7% to AED 3,654m/US\$995m.

Of that Group result, the vast majority came from airline operations, which accounted for 94.3% of revenue and 77.7% of operating profit in 2012/13 (with the rest coming from

airport services subsidiary Dnata and other smaller business units).

The Group had an operating margin of 4.7% in 2012/13 – better than the 3.9% of 2011/12 though significantly less than the heady 10.4% margin of 2011/11. Relative to almost all other airlines that's still very good, though even the mighty Emirates is not immune to external factors such as currency exchange rates and in particular oil prices – fuel accounted for 39.6% of all its airline costs in the FY, which is up substantially from the 29.9% proportion they represented as recently as 2009/10.

During 2012/13 airline capacity rose by 17.9%, though RPKs couldn't quite match that and so passenger load factor fell slightly, by 0.3 percentage points to 79.7%. As can be seen in the chart below, after a steady rise since the late 1990s, the average load factor has levelled off at around 80% for the last three years. That perhaps hints at the challenges the air-

line faces in adding so much capacity year after year.

Indeed Emirates has increased its airline capacity by almost a third over the last two years, and ASKs have also doubled over the last five year period. But despite that pace of expansion and airline employees almost hitting the 40,000 mark, the carrier's productivity, as measured by ASKs per employee, has also continued to rise.

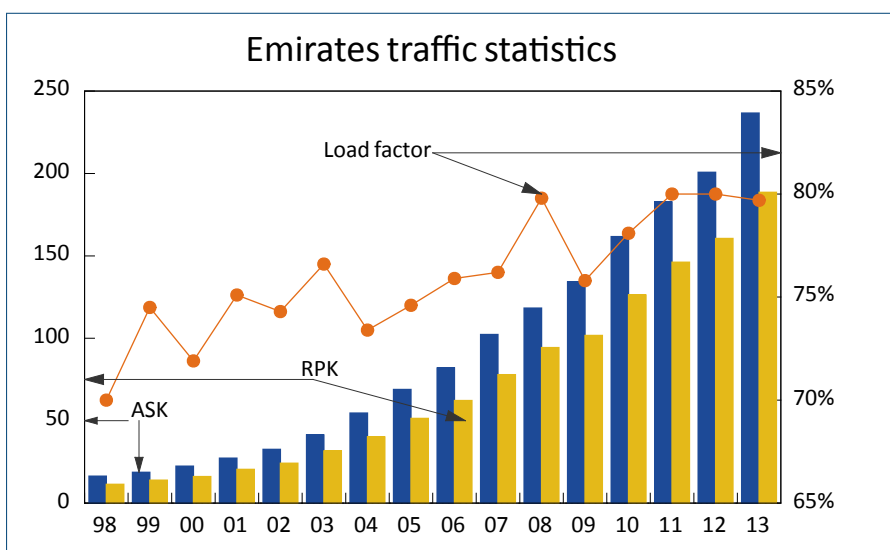
Fleet expansion

The group fleet currently stands at 210 aircraft, including 121 777s, 41 A380s, 23 A330s, 13 A340s, 10 777Fs and two 747-400ERFs. Emirates operates the world's biggest fleet of both A380 and 777 models, with more than one tenth of all 777s ever built and a third of all A380s produced.

Then, at the Dubai air show in November Emirates announced firm orders for 200 aircraft, comprising 115 777-9Xs (plus purchase rights for another 50 777Xs), 35 777-8Xs and 50 A380s. The firm orders are worth a staggering US\$99bn at list prices, though of course at this level of aircraft bulk buying the discounts (over 50%?) gained from the manufacturers will be substantial.

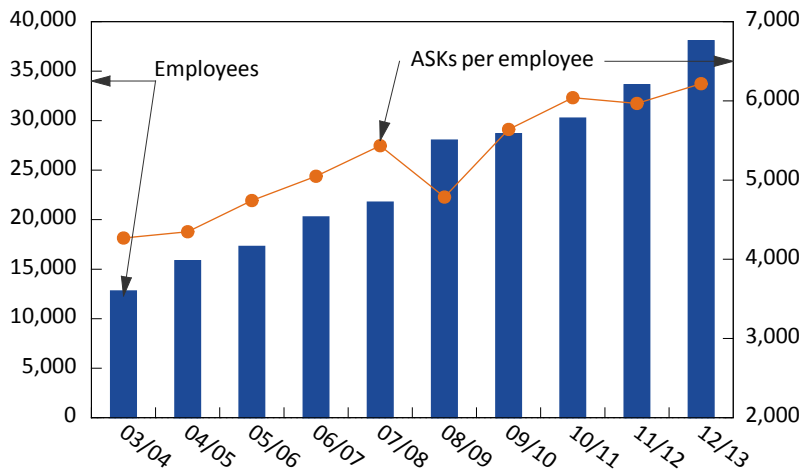
These orders bring Emirates' total outstanding firm order book to 380 units, comprising 211 777s, 99 A380s and 70 A350s.

The 777Xs (an updated and more fuel-efficient version of the 777) will start arriving from 2020. Emirates actually negotiated jointly with Qatar Airways for the order (Qatar also bought 50 of the type at the Dubai air show) in order to get better terms



Aviation Strategy

Emirates' airline employees and productivity



and performance specifications. Whether that's the start of a longer-lasting co-operation between two of the three Gulf giants remains to be seen, but from a manufacturer's point of view it must be impossible to resist the joint demands of two such powerful aircraft purchasers.

As for the A380, the orders are due to be delivered in 2017, and from 2020 Airbus will start replacing its initial A380s as Emirates policy is to retire them at 12 years. Whether replacement or new capacity, the extra 50 A380s will be used on high density trunk routes into Europe and Asia.

As can be seen in the chart, page 9, Emirates' average fleet age had been creeping up over the last decade, but it has now started to come down and will keep falling as the mountain of new aircraft are delivered and the older widebodies (not only A380s but also A330s, A340s and 777s) are disposed of or come off lease.

Before the recent orders the medium-term plan was to operate a fleet of 250 aircraft by 2020, carrying 70m passengers in that year, which would consolidate Emirates' position as the world's largest airline in terms of international passenger traffic. the

new orders will potentially result in a fleet of at least 400 and possibly 450 aircraft by 2020.

Nevertheless, concern by some analysts just a couple of years ago that Emirates would have trouble finding enough routes where the A380s could be operated profitably now seems unfounded – and clearly Emirates is confident enough of its business plan to order another 200 aircraft.

At the heart of Emirates' confidence is its oft-quoted statistic that more than a third of the world's population live within a four hour

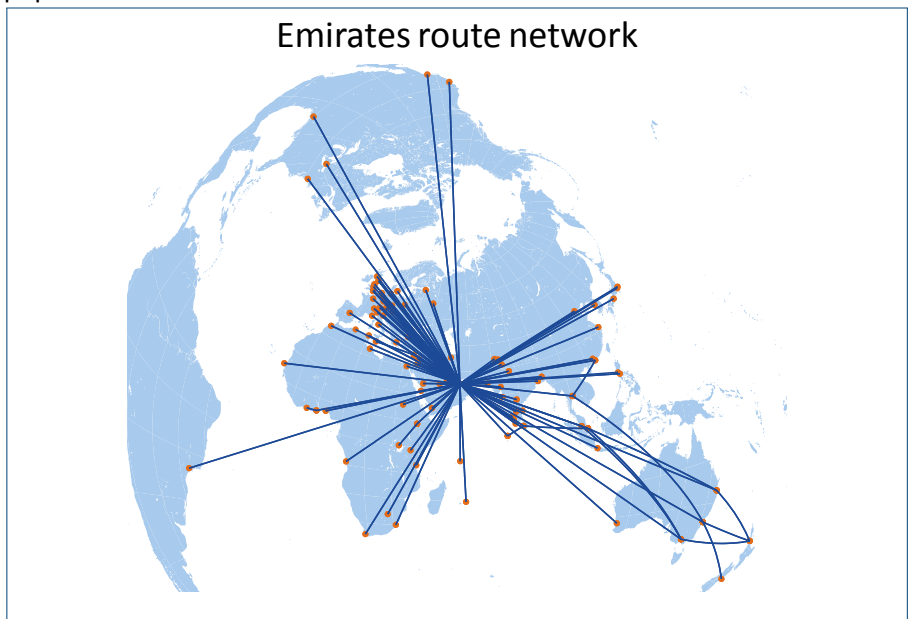
flight radius of Dubai, with two-thirds within an eight hour radius and 90% servable by non-stop flights from Dubai (such as Emirates' 16 hour route to Houston with a 777-300ER or the 14 hour A380 service to Sydney).

Emirates currently operates to 137 destinations in 77 countries, and in the first half of FY 2013/14 it added routes to Haneda, Stockholm, Clark, Conakry (in Guinea) and Sialkot (Pakistan). Routes to Kabul, Kiev and Taipei are being added in the second half of the financial year, and a daily route to Boston using 777-200LRs will launch in March 2014. That will be Emirates' 12th route to the Americas – of which eight are to the US. The unofficial target is 15 routes within the next four or five years.

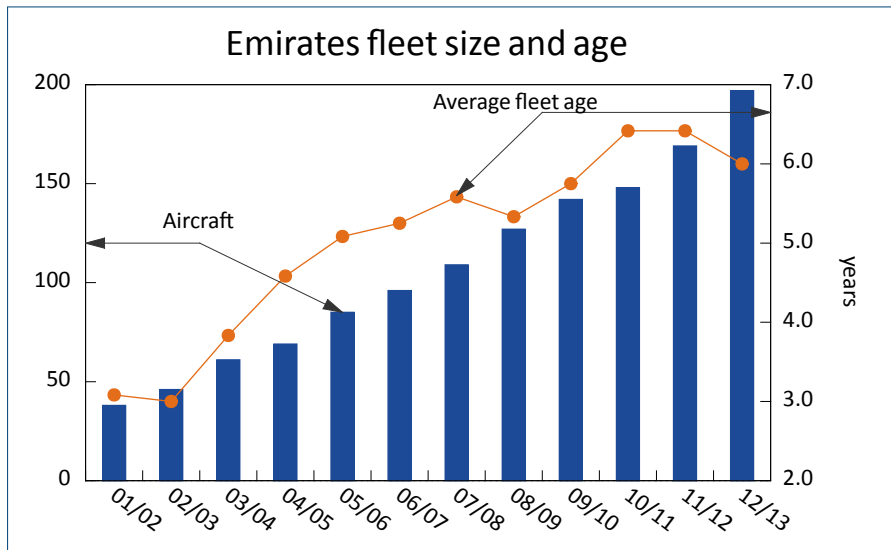
A key problem for Emirates will be securing sufficient landing rights to markets into which it wants to expand. For example, while the UAE has an open skies agreement with the US, Canada restricts Emirates to just three flights a week, which infuriates the Gulf carrier.

India is another problem market. Emirates says it was invited to invest

Emirates route network



Aviation Strategy



in Jet Airways prior to Etihad taking a 24% stake in the Indian airline, but declined as it didn't fit in with Emirates' strategy of instead concentrating on organic growth. Or, as Tim Clark, president of Emirates Airline, puts it: "If you get involved in management of other entities, it does take your eye off the ball."

Of course that strategy comes with a downside – Etihad is now getting an extra 34,000 weekly seat rights into India phased in over the next three years (additional to its existing 13,000 weekly seats), and Etihad will be able to operate into more than 22 destinations in India, compared with the 10 available to Emirates (though with a 54,000 weekly seat capacity). Emirates complains that it could easily fill twice the number of seats, but again emphasises that it will not "buy" such extra capacity through acquisitions.

The Dubai hub

While the landing rights problem is an irritation, Emirates is not being deflected from its core strategy of building up routes and traffic flows east-west (or west-east) through its Dubai hub, where approximately 70% of all Emirates passengers connect.

At some point – 2020 at the ear-

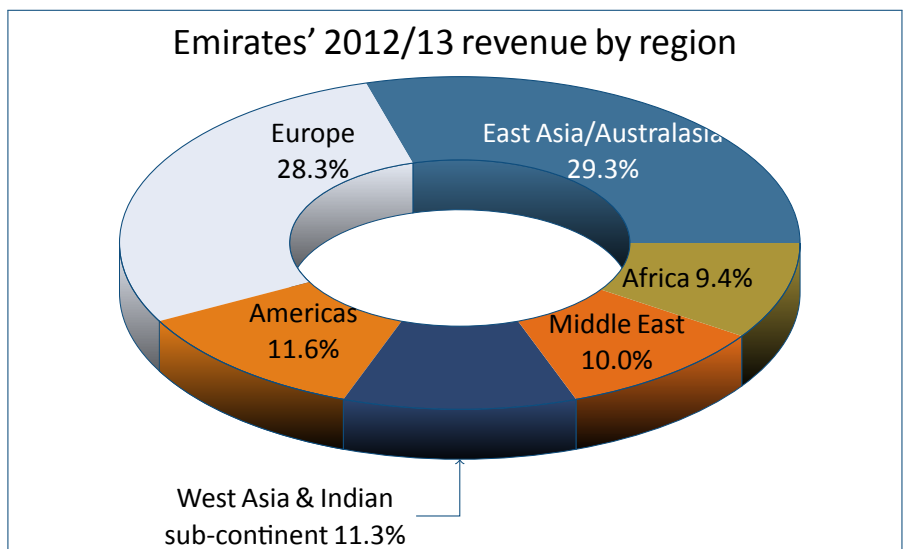
liest – Emirates will transfer that hub from Dubai International to the new airport in Dubai – Al Maktoum International, which opened for passenger traffic this October, initially with capacity for 7m passengers a year. Facilities are still being built and capacity will rise to 160m passengers and 12m tonnes of cargo annually by the mid 2020s.

Emirates' cargo operation – called SkyCargo – will move its freighter hub to Al Maktoum International in May 2014 when it will operate out of a new dedicated freighter cargo terminal completed that month that will have a capacity

to handle 700,000 tonnes of cargo annually. SkyCargo currently operates 10 777Fs and two 747-400ERFs to 43 destinations around the world.

In the meantime Emirates will continue to operate at Dubai International, at which an extension to Terminal 2 is due to be completed in the second quarter of 2014. However, the airport has limited apron capacity that limits the number of A380s in particular that can be parked overnight; Tim Clark says that the recently announced order for 50 A380s would have been 60 if enough room could be found at Dubai International. Ironically, in the period to 2020 Emirates may find extra apron space as other airlines move operations from Dubai International to Al Maktoum.

Emirates carries more passengers than its two Gulf rivals combined (Etihad Airways – see *Aviation Strategy*, November 2013 – and Qatar Airways), with the key difference strategically to those rivals being that Emirates has a widebody-only fleet. However, Emirates' associated LCC, Fly-Dubai, which is also owned by the emirate of Dubai, now offers an interline service with Emirates. On 30 routes that Emirates does not serve,



Aviation Strategy

mostly in the Middle East, Russia and central Asia, passengers can connect through onto Emirates flights, with baggage transfer being available on some flights. Also based at Dubai International, FlyDubai operates 33 737-800s to more than 65 regional destinations and has 128 737s aircraft on order (of which 111 were ordered at the Dubai air show this November).

Latest financials

Even before the recent orders Emirates would have had to raise at least \$22bn over the next four years to finance its aircraft deliveries, but so far the airline has found little difficulty in raising finance via a diversified strategy incorporating bonds, operating and finance leases, and US ex-

port credit facilities. A substantial Islamic or conventional bond may be issued early in 2014 it is believed, and further bonds are likely to be issued through the rest of the decade.

In the first half of the 2013/14 financial year (covering the April-September 2013 period) Emirates Group revenue rose 13% year-on-year to AED 42.3bn (US\$11.5bn), with net profit up by 4% to AED 2.2bn (US\$599m). Of that Group result the airline operation accounted for 94% of revenue and 77% of net profit. Passengers carried increased by 15% in the first half of the financial year, to 21.5m, with load factor steady year-on-year at 79.2% after capacity growth of 16.9%. As at September 30th total Group employees were

75,800, 11.7% up on six months earlier.

Group cash as of September 30th was a healthy AED 18.2bn (US\$ 4.9bn), though this was AED 8.8bn (US\$ 2.4bn) down on the position six months earlier due to a US\$1.9bn "injection back into the business to fund new aircraft, engines, spares and other projects" as well as a US\$0.5bn repayment of a bond that matured in July.

There are recurrent rumours of an IPO. The equity may not be needed now, but given the scale of its investments and growth plans, such a development might soon be desirable.

Aviation Strategy

The Principals and Associates of Aviation Strategy 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 | ✈ Turnaround strategies | ✈ State aid applications |
| ✈ Due diligence | ✈ Privatisation projects | ✈ Asset valuations |
| ✈ Antitrust investigations | ✈ Merger/takeover proposals | ✈ Competitor analyses |
| ✈ Credit analysis | ✈ Corporate strategy reviews | ✈ Market analyses |
| ✈ IPO prospectuses | ✈ Antitrust investigations | ✈ Traffic/revenue forecasts |

For further information please contact:

James Halstead or Keith McMullan

Aviation Strategy Ltd

e-mail: info@aviationstrategy.aero

UAL: the challenge of catching up with Delta and American

2013 was supposed to be a strong recovery year for United Continental (UAL). Having fixed the IT and other integration issues that plagued it in 2012, this year UAL had expected to start showing some merger benefits and narrowing the profit margin gap with competitors.

But that has not happened. UAL has continued to underperform its peers in terms of RASM and profit margins. The margin differentials have widened considerably in recent months. In the third quarter, when Delta increased its operating margin from the year-earlier 14.7% to 15.9% and AMR more than doubled its margin from 4.1% to 10.4%, UAL saw its margin decline slightly from 7.2% to 7%.

It is now more than three years since United and Continental completed their merger in October 2010. The disastrous IT/reservations switchover in March 2012 was a major setback, but in the past 18 months UAL has made seemingly excellent progress in many areas – operations, customer service, product, technology and so on. Investors and analysts have increasingly asked: why is none of that translating into better financial results?

UAL's inability to deliver has been all the more frustrating because of the enormous potential offered by this combine. United brought to the union a uniquely powerful global network. Continental contributed what was widely regarded as the very best leadership team in the industry. With

such attributes, UAL should really be doing much better financially at this stage.

But Delta's incredible progress since its 2008 merger with Northwest and AMR's successful reorganisation and merger with US Airways (which closed on December 9) have also added to the pressures UAL faces.

At the three-year mark after merger completion, Delta was much further ahead than UAL – outperforming its peers in RASM, earning solid profits and paying down debt at a heady rate. 2013 will be Delta's fifth consecutive year of \$1bn-plus pre-tax earnings. Delta is now blazing the trail in rewarding shareholders; it began paying dividends this year for the first time in a decade and also launched a \$500m share buyback programme.

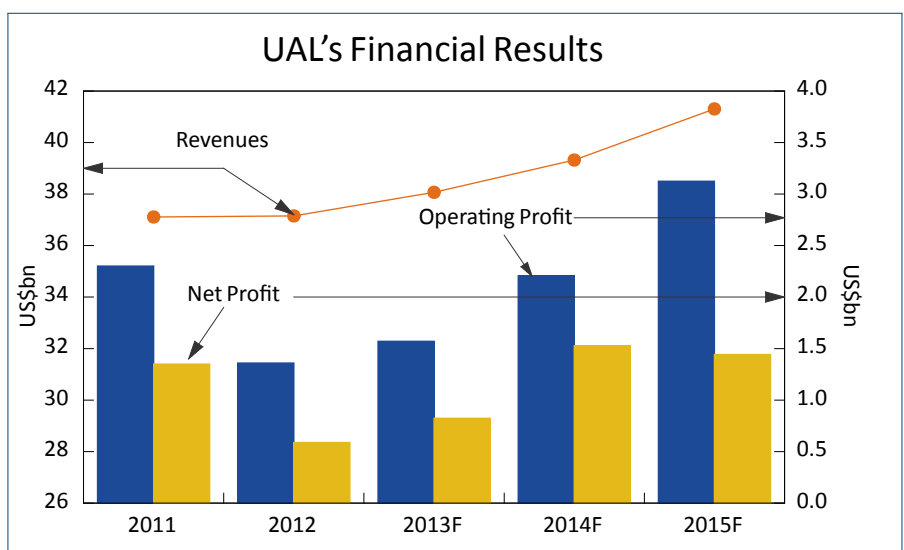
American Airlines Group (AAL) is also surging ahead. Both AMR and US Airways have already been beating UAL in the profit margin league,

and the combine can reasonably expect a relatively smooth labour integration process because the workers are fully onboard. One analyst suggested recently that anyone looking for "the next Delta" was more likely to find it in AAL than UAL.

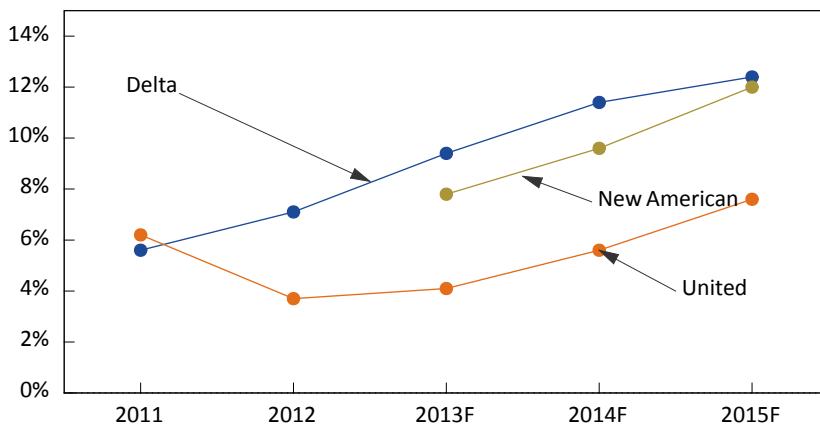
What should a US airline do in this kind of situation? Hold an investor day, of course. UAL held its first post-merger investor day on November 19 in New York. At the event the company sought to reassure the financial community that all was well and that it had a solid plan to cash in on the network and revenue opportunities, get costs in line and start rewarding shareholders from 2015.

The investor day message was extremely well received. UAL's stock "shot through the roof to hit an all-time high", as Motley Fool writers observed.

The financial community has historically tended to look at United through rose-tinted glasses. Both eq-



Top three US carriers' operating margins



Note: Forecasts by JP Morgan (December 5)

uity and debt investors like the global network and well-located hubs so much that they are prepared to give UAL the benefit of the doubt, provide all the funding it needs etc, even in circumstances where they would shun other airlines.

Of course, analysts have adopted a more measured response. While most have a “neutral” rating on UAL (as of mid-December), some have continued to rate the stock as a “sell/underperform”; because they feel that the shares are overvalued, because UAL has failed to deliver in the past and because Delta and (even) AAL pose less execution risk.

But, stock market considerations aside, does UAL now have a solid and realistic plan to retain its fair share of business and corporate traffic and start reducing the profit margin gap with Delta and AAL? Will it be in a position to start rewarding shareholders in 2015?

Why the below-par margins?

The consensus is that UAL mishandled the merger integration. With hindsight, analysts have made the point that the team led by Jeffery Smisek did not have hands-on experience in merger integration. That may

help explain the IT switchover fiasco, though it is not entirely clear why it took so long to rectify the problems.

The IT switchover fiasco was discussed in previous *Aviation Strategy* articles (see July/August 2012 and January/February 2013 issues). The combine opted to switch to the smaller Continental’s systems. Dubbed the largest-ever aviation technology migration, it was a critical integration milestone that was supposed to drive significant merger synergies. Instead, things went wrong and UAL suffered extensive and prolonged operational and service issues.

The consequences were twofold. First, the problems alienated many customers. UAL lost valuable premium market share, weakening its revenue performance. Second, fixing the woes (increasing staffing levels, etc) caused costs to soar. UAL was already feeling CASM pressures because of the harmonisation of labour costs and the lack of ASM growth.

It was already clear by early 2013 that the operational investments to fix the 2012 problems had paid off. UAL’s on-time performance and

other such metrics had improved dramatically. However, to ensure that things stayed that way, UAL has maintained higher than normal airport staffing and spare aircraft levels through 2013.

UAL has also invested heavily in product improvements, including flatbeds, satellite-based Wi-Fi, live television, new economy seats (for installation in the next few years). The aim has been to offer “the most” of just about everything, to beat competitors at every aspect of service. A new brand campaign, featuring a modernised version of the iconic “Fly the Friendly Skies” tagline (which today means “combination of service, technology and product enhancements”), started in September.

In the aftermath of the IT switchover fiasco, UAL also decided to put all its customer-facing workers worldwide through a new comprehensive training programme, which was 90% completed in October. The company hopes that “great customer service at United can become a powerful competitive differentiator”.

All of that sounds good, but it has added up to a lot of spending this year. “There is no question our costs are too high”, CEO Smisek noted in the third-quarter earnings call.

It has not helped that UAL has had to keep the two airlines’ flight operations separate. Full integration in that important area is now imminent, because the two pilot groups recently finally agreed on an integrated seniority list. But otherwise the labour integration process is nowhere near complete; although UAL has secured tentative joint agreements with its IAM-represented workers, it still needs to clinch contracts with two other big groups, Teamsters and AFA.

UAL insists that its so-called customer satisfaction scores have continued to rise (up 37% year-on-year in September), but that is not yet reflected in revenue trends. By its own estimates, UAL underperformed the industry by 4.5 points in PRASM in September.

The airline blamed its weak third-quarter PRASM performance mainly on yield management problems and competitive pressure on the Pacific, especially China. There was also a \$55m headwind from the yen's weakness. And analysts feel that UAL's share of corporate travel is not recovering as quickly as anticipated.

UAL is the largest US carrier to China, operating more than twice the capacity of the next largest airline. As travel demand to and from China continues to soar, there has been a flood of competitive capacity on those routes. In the third quarter, industry capacity in the US-Beijing and US-Shanghai markets was up by 20%, and that trend is persisting into 2014. UAL saw its Pacific passenger revenues plummet by 11%, PRASM by 9.4% and yield by 8.4% in the third quarter, despite a prudent 1.7% reduction in its Pacific ASMs.

Of course, despite being a short term challenge, the Pacific and especially China routes will be a critical asset and a "key differentiator" for UAL in the longer term (more on its China plans below).

The management believes that after the efforts to fix and improve operational performance, customer service and the product, UAL is now competitive on all of those fronts – important for a global carrier that focuses on the high-yield segment.

To keep things in perspective, UAL has been profitable on an operating and ex-item net basis since

the merger (annually and in most quarters, though a loss is expected in 4Q13). The third quarter marked the carrier's highest level of quarterly profits since 3Q11. But the results obviously fall far short of what UAL is capable of (and should be) delivering.

When will UAL catch up?

At the investor day UAL outlined what it called a "path for increasing long-term shareholder value". New plans to reduce costs, increase revenues and optimise the network featured prominently in the management's presentation.

UAL is targeting \$2bn of new annual cost savings by 2017. Half of those would come from improved fuel efficiency (new aircraft, winglets). The other half would come from increased productivity in other areas: reduced sourcing costs, better maintenance practices and inventory management, and lower distribution costs.

The \$2bn cost cutting target may sound impressive, but it is actually only designed to keep unit cost increases below inflation (similar to Delta's strategy). UAL still expects its ex-fuel CASM to grow in the 2014-2017 period. Next year's increase is projected to be 1-2%, which would obviously be much better than 2013's 6-6.5% increase.

In other words, without this new cost-cutting programme UAL could have seen some horrendous CASM increases in the next year or two, as further wage increases kick in and ASM growth remains constrained.

Capacity discipline is central to UAL's strategy (as it is for Delta and AAL). Since 2008 United's capacity has declined by nearly 2% annually. 2013 will see a 1.2% reduction in consolidated ASMs (including regional operations). The next four years are

expected to see just 1-2% average annual growth in ASMs, with the consolidated fleet count remaining roughly flat at 1,250-3,000 aircraft.

UAL's goal is to grow its pretax earnings by 2-4 times the current level over the next four years. Analysts say this is achievable, especially since the carrier is starting from a relatively low base.

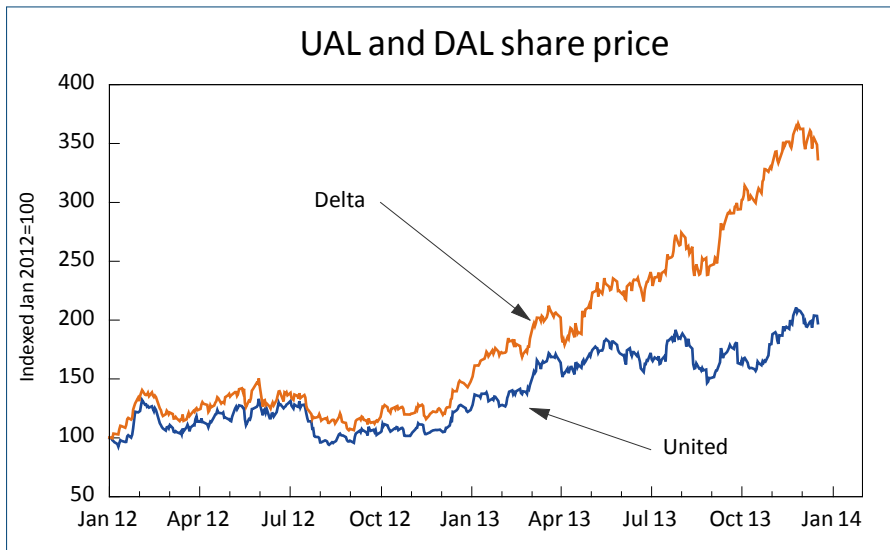
The aim is to generate sufficient cash to begin allocating capital to shareholders by 2015 (through dividends or share buybacks, for example). That would be in addition to the existing goal of achieving a 10% ROIC.

Another new goal is to grow ancillary revenues by \$700m in the next four years, to generate \$3.5bn-plus from such sources by 2017, up from \$2.8bn in 2013. UAL already generates more ancillary revenues than its peers, but it has apparently identified new opportunities, which it describes as giving customers new options, optimising pricing on existing products and making the products available through more distribution channels.

UAL is also further optimising its route network. First of all, it is eliminating unprofitable Pacific routes, such as Seattle-Tokyo and Tokyo-Bangkok, and down-gauging many other beyond-Tokyo sectors. The idea is to rely more on JV partner ANA to provide beyond-Tokyo connectivity. But UAL will be boosting service in more profitable markets such as Houston-Tokyo and launching a new San Francisco-Taipei route with 777s in March.

The intra-Asia contraction is actually part of a longer-term trend, reflecting growing demand for non-stop service. United's intra-Asia ASMs have declined from 226m in 1999 to 156m in 2013 and will now fall further to an estimated 106m in 2014.

Aviation Strategy



UAL intends to use the aircraft freed by the intra-Asia cuts to boost transatlantic flying; plans include a new Houston-Munich route and Dulles-Madrid and Chicago-Edinburgh seasonal services.

Of course, there will be interesting new expansion in US-Asia secondary markets, facilitated by the 787. Having introduced the 787 on the Denver-Tokyo route, UAL will use it to launch a three-per-week San Francisco-Chengdu service in June 2014.

As the 787's first and so far only US operator, UAL will enjoy a "first mover" advantage in important future growth markets like Chengdu, which is China's fourth largest city (14m population). UAL will be the first US carrier to offer nonstop service to China beyond Beijing and Shanghai.

China represents an enormous future growth opportunity. UAL is well-positioned to reap the benefits because it dominates the US-China market, operating 11 routes from five US gateways (compared to seven routes by all other US carriers combined) and 77 weekly departures (compared to 49 by other US carriers). UAL also offers the best

connectivity in China (to over 90 cities) via Star partner Air China.

UAL continues to modernise its fleet by taking 737-900ERs and 787s and retiring domestic 757-200s. Year-end mainline fleet will total 693, nine fewer than a year ago. New deliveries will average 25 annually (somewhat higher in 2014-2015) and will keep the fleet count flat at around 700 in the "planning horizon".

At the investor day UAL also sought to reassure the participants that its fleet spending will be "metered and disciplined" (it has been criticised for having higher capex than Delta). The 737-900ERs and 787s meet the ROIC maximisation criteria. But UAL has opted to defer A319/A320 replacement (and hence some \$3bn of capex) by making a modest investment in "slimline" seats, larger overhead bins and suchlike. The result will be total annual capex in the \$2.8-3bn range in 2014-2017, compared to Delta's projected \$2-2.5bn.

UAL and Delta have different approaches to aircraft investments, with Delta going for a higher mix of used aircraft. But the fleets, networks and other factors are also different.

UAL executives noted recently that the new-versus-used decision is "really done on a fleet-by-fleet basis".

UAL has reduced its total debt (including leases) from \$25.9bn in 2006 to \$19bn at year-end 2013 – a level its executives call "very manageable". Debt maturities and lease obligations will average \$1.2bn annually in 2014-2017, much less than in recent years.

But UAL hopes to get the total adjusted debt figure down to \$15bn by 2017. It is obviously way behind Delta, which met its \$10bn adjusted net debt reduction target earlier this year and now has a new \$7bn target. If UAL had the same level of unrestricted cash in 2017 as currently (\$6.7bn), the \$15bn total debt target would translate into \$8.3bn of net debt.

On the positive side, UAL has strong liquidity (18% of annual revenues), solid cash flow, a relatively modest pension burden (\$1.8bn underfunded at the end of September) and \$5bn-plus of unencumbered assets (including 90 aircraft). UAL's credit profile is improving, as indicated by recent commentaries from Fitch and Moody's.

The consensus view is that UAL will begin the process of closing the profit margin gap with its peers in 2014 and that in 2015 it will be in a position to start returning cash to shareholders. Because of the new cost-cutting programme, some analysts have nudged up their 2014 earnings forecasts.

But many analysts feel that, notwithstanding the likely improvement, UAL's profit margins will still lag Delta's and American's even in 2015.

By Heini Nuutinen
hnuutinen@nyct.net

Business Jets:

The alternative aviation universe

THERE is an alternative to the middle seat on a crammed flight, to the frustrating queues in teeming airports. It is the private or business jet, a sector which, in terms of aircraft numbers, is almost as large as the commercial jet fleet.

Remarkably the world fleet of private and business jets totals 18,000, ranging from Very Light Jets to converted 747s. For comparison the commercial jet fleet is around 21,000 units.

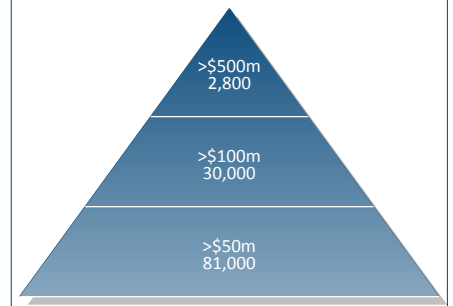
To enter this parallel aviation universe it helps to be seriously rich. There are now about 1,400 dollar billionaires worldwide, with most of the new billionaires coming from the BRIC countries or Asia, where business jets are particularly prized. Underneath the ultra-rich are tiers of high net worth individuals (HNWIs) many of whom have particular requirements for private air travel. For example, London has seen an influx of

HNWIs in recent years, which has resulted in soaring house prices in salubrious areas and, despite or perhaps because of the complex of commercial air services from the capital, a surge in demand for private jets.

The private jet experience is now also just about possible for the quite well-off. For instance, Flexjet has introduced a "Passport to the World" tour: for a total of \$1.5 million a party of eight will be flown in a Challenger 605 around the world in 14 days, stopping at some very nice hotels.

Whereas HNWI usage of private jets represents the glamorous end of the market, the core business jet market is in the corporate and government sectors. Governments from those in impoverished African nations to the most developed nations like to have their own private jets. For corporations, business jets can be most cost-effective of transporting executives (and indeed other employees) between geographically

No of individuals worldwide worth more than \$50m



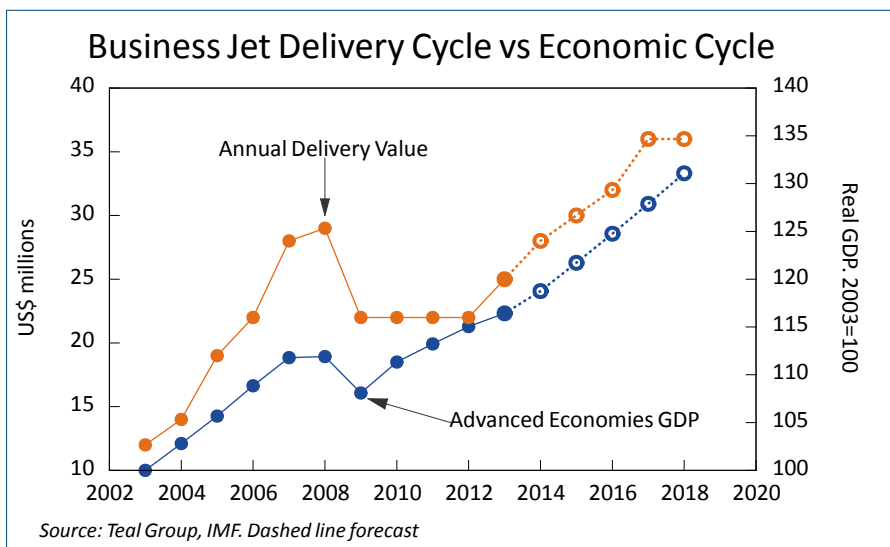
Source: Forbes, 2013

diverse locations.

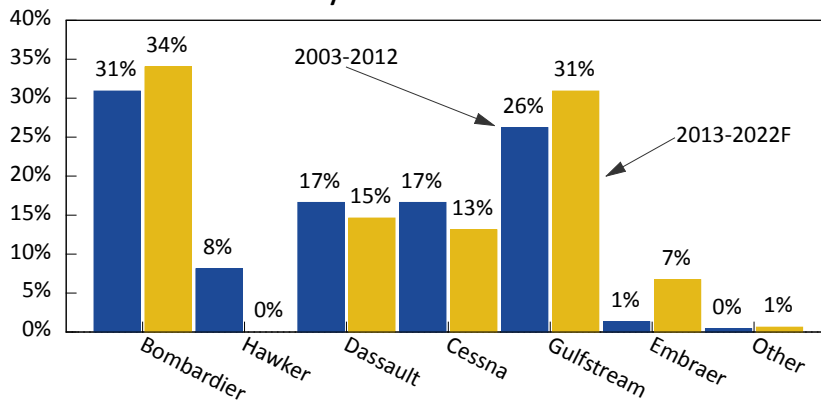
This is particularly the case in the US which accounts for about 60% of global demand for business jets. It is interesting that one of the largest fleets of business jets in the US belongs to Wall-Mart, the huge cut-price retailer. Corporations in the energy, agribusiness, automotive and finance sectors are also major users of business jets.

It was those two later sectors which threatened to give business jets a bad name in recent years. It did not go down well with US politicians when the CEOs of Chrysler, Ford and General Motors flew into Washington in their private jets to plead for government aid. Citicorp, having received \$20bn of bail-out funds, was firmly told to cancel its private jet flying.

The crisis precipitated by Lehman's 2008 bankruptcy hit the business jet sector hard. After record growth (in value of deliveries) during 2003-2008, the market fell by 29% between 2008 and 2012, according to the Teal Group. However, the top half of the market, larger jets



Business Jet Manufacturer Market Share by deliveries value



Source: Teal Group

with values typically of \$25million plus, actually grew marginally during the recession while the bottom half slumped by 56%. One of the reasons for this is that smaller jet users tend to be concentrated in North America while in the more dynamic

economies, notably BRIC economies, customers have a preference for higher-end products. And, even at the low point of the 2010-12 recession, the business jet industry was twice as large as 15 years ago.

For a while it looked as if the re-

cession might claim at least one of the major private jet operators (see box for brief profiles). In particular, Warren Buffett must have wondered if his purchase of NetJets was going to be as painful as his ill-fated investment in USAir back in the 80s. With a heavy exposure to American bankers and fund managers, NetJets experienced a 77% collapse in aircraft seat sales post-Lehmans, and in 2009 posted a \$711m loss (including heavy asset write-downs).

However, NetJets has proved to be a resilient business, returning to profit throughout 2010-12 (about \$650m in total). Bookings are still below the 2007 peak but the fleet has been reduced by 20%, with focus on two standardised types – the Global Express 6000 (13 passengers) and the Phenom (7 passengers) – and 40% of

Major Business Jet Operators

NetJets

NetJets was launched in the US in 1984 as fractional aircraft ownership business, before being bought by Warren Buffet's Berkshire Hathaway in 1988.

Based in Columbus, Ohio, but with offices around the world, Net Jets is the world's largest business jet operator. It has a fleet of around 750 aircraft globally. Its European operation is based in Portugal and manages a fleet of 140 aircraft. In total it has about 270 jets on order.

It offers two services:

- ➔ Fractional ownership — offering customers a minimum of 50 hours of flying per year, equivalent to a 1/16th share in an aircraft, and upwards to a full 100% share in an aircraft.
- ➔ Marquis Jet Card — An up-front payment for 25 flying hours, with aircraft available within 24 hours of a specific customer journey request.

VistaJet

Launched in 2004 by entrepreneur Thomas Flohr, VistaJet is based in Baar, Switzerland, with offices around the world excluding the US (though this is planned). Its fleet now totals 41 aircraft, with 114 on order.

It offers two services:

- ➔ Your Program – offers blocks of 50 to 500 hours, with aircraft available within 24 hours of a specific customer journey request.
- ➔ Your On Demand – for occasional trips as needed by a customer.

FlexJet

FlexJet was launched in 1995 by parent company Bombardier as its fractional aircraft ownership business, sold in September this year Directional Aviation Capital, Ohio-based investment company founded by Ken Ricci that also includes fractional jet companies Flight Options and Sentient Jet. Based in Richardson, Texas, FlexJet's business aircraft fleet comprises 80 units.

In September 2013 – as part of the Directional Aviation Capital deal – FlexJet placed an order for 85 Bombardiers and options for another 160 aircraft. Deliveries will begin in mid-2014 and run until 2022.

FlexJet currently offers four services:

- ➔ Fractional ownership — offering customers between 50-400 hours of flying per year (in 50 hour increments), on five year contracts.
- ➔ FlexJet Jet Card — offering 15-100 hours, starting on minimum 12 months contracts and on a debit model.
- ➔ Whole Aircraft Management – 300+ hours offered on a five year contract. with an option to lease-back unused hours for use by other FlexJet customers.
- ➔ Charter Brokerage – 1-25 hours available on a non-contract basis.

Aviation Strategy

sales are now outside the US. Buffett now sees his private jet business as very well positioned to benefit from the upturn in developed economies, the emergence of new markets and a recovery in business confidence. He also notes that barriers to entry are much higher in the business jet sector than in commercial jet sector.

In general, confidence in business jet prospects is growing. According to both the Teal Group and Honeywell, the market has bottomed out, used jet availability has fallen and economic indicators are promising. The correlation between the IMF's outlook for global GDP and prospective demand for Business Jets, extracted from the latest Teal forecast, is shown on page 15.

In more detail, Teal is predicting:

- ➔ Forecast production of 13,377 jets worth \$320bn over next ten years
- ➔ Of these 66% will be high-end models (50% pre-2009)

➔ Bombardier and Gulfstream to be market leaders, followed by Dassault and Cessna, with Embraer as the fast growing new entrant

➔ The anti-business jet cultural environment in the US is rapidly disappearing

Honeywell, in its Global Business Aviation Forecast (October 2013): notes the following:

➔ Up to 9,250 deliveries of new business jets valued at over \$250 billion expected through 2023

➔ Operators plan to replace 28% of their fleets with new jets in the next five years

➔ BRIC country purchase plans are increasingly important

➔ Large cabin jets account for more than 55% of new purchase plans and more than 80% of all expenditure on new business jets

Over 2,000 business jets are currently on firm order, compared

to a commercial jet total backlog of about 9,000. In-demand types include: Bombardier's Global Express 5000/6000 and Challenger 605, Gulfstream's G550/650, Dassault's Falcon 7X, Embraer's Legacy and Phenom, Airbus' ACJ and Boeing' BBJ. Unlike in the commercial sector, significant discounts are generally not offered; so, for example, a Global Express 6000 (carrying 13 passengers) will retail at around \$60m, compared to, say, \$45m for a 150-seat A320 NEO.

Normally, business jets have to be purchased using cash or finance lease products; less than 1% of transactions are on operating lease structures, compared to 40% in the commercial jet sector – possibly a major business opportunity.

Aviation Strategy

We welcome feedback from subscribers on the analyses contained in the newsletter. If you would like to suggest a company or a subject that you would like to see covered, please contact us:

Email: info@aviationstrategy.aero or go to www.aviationstrategy.aero

Long-term premium traffic trends

THE six IATA regions below represent almost 70% of global premium revenues. The graphs show premium traffic volume growth rates, on a 12 month moving average basis to smooth out seasonality, and the percentage revenue figure refers to IATA's estimate of premium passenger revenues as a proportion of total passenger revenues in that region.

The most obvious observation is that there has been a complete rebound from the slump in premium travel that followed the 2008 financial crash, but the recent annual growth rates are generally below those of 2007. Latest monthly numbers from IATA, however, do suggest that this sector is again strengthening.

North Atlantic: Although traffic

volume increases have been modest post the rebound, the importance of premium traffic in this region stands out – over half of all revenues derive from premium travellers who account for just under 15% of numbers, so an relative fare ratio of 3.5:1.

Europe-Far East: For the second most important region, there is a very similar pattern; in this region the fare ratio is 2.9/1.

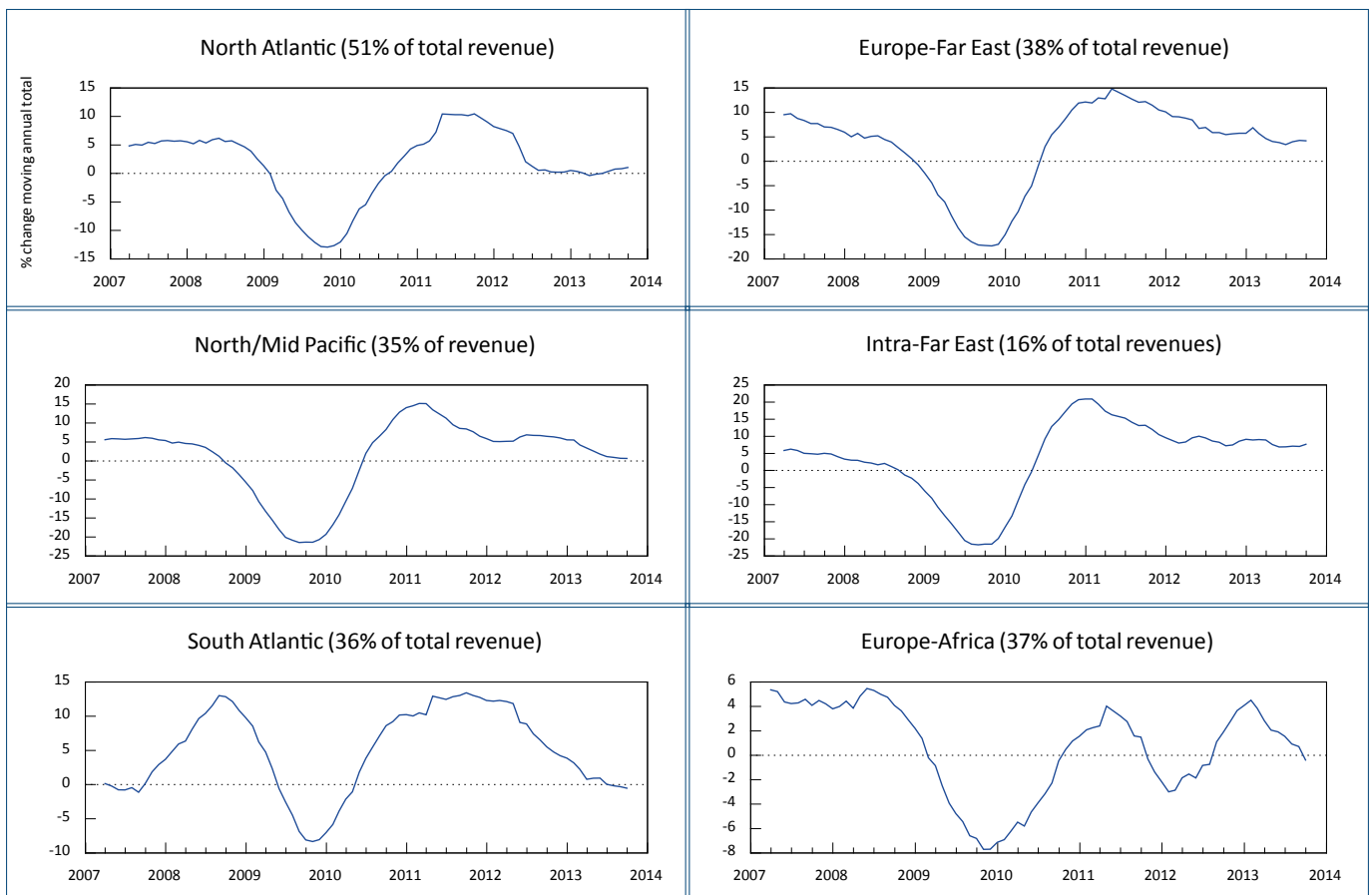
North/Mid Pacific: Business class travel in the region has also been affected by the prolonged Japanese recession and volume growth rate have been modest; the fare ratio is estimated at 2.3/1.

Intra-Far-East: Strong growth in volumes but the percentage of business class passengers is com-

paratively low, partly because of the medium haul nature of travel; the fare ratio is estimated at 2.2/1.

South Atlantic: A very strong recovery as South American economies boomed, but a marked slow-down recently as they have faltered; the estimated fare ratio is high at 3.1/1.

Europe-Africa: In revenue terms this market is larger than the South Atlantic, though more volatile, the second dip reflecting the impact of the Arab Spring revolutions in the north of the continent; a fare ratio of 3.3/1 would be greater but for the fact that Economy fares are also high in this restricted market.



Freighter values and lease rates

THE following tables reflect the current values (not “fair market”) and lease rates for cargo aircraft. Figures are provided by The Aircraft Value Analysis Company (see below for contact details).

The values and rates reflect AVAC’s opinion of the worth of the aircraft in the present market. In assessing current values, AVAC bases its calculations on many factors such as number of type in service, number

on order and backlog, projected life span, build standard, specification etc. Lease rates are calculated independently of values and are all market based.

	New	5 years old	10 years old	20 years old
A300F4-200			252	181
A330-200F	786	700		
737-300QC				102
747-400M			367	270
747-400F			530	
747-400ERF		801	686	
747-800F	1790			
757-200PF			150	
767-300F	374	349.00	307	
MD-11C			204†	
MD-11F			291‡	232

Notes: †1999 build, ‡2000 build

	New	5 years old	10 years old	20 years old
A300F4-200			31.3	14.2
A330-200F	94.7	83.8		
737-300QC				6.1
747-400M			37.9	21.7
747-400F			53.5	
747-400ERF		78	64.9	
747-800F	185.6			
757-200PF			13.5	
767-300F	54.6	45.10	35.6	
MD-11C			16†	
MD-11F			23.1‡	17.3

Notes: †1999 build, ‡2000 build

AIRCRAFT AND ASSET VALUATIONS

Contact Paul Leighton at AVAC
(Aircraft Value Analysis Company)

Website: www.aircraftvalues.net
Email: pleighton@aircraftvalues.net

Tel: +44 (0) 20 7477 6563
Fax: +44 (0) 20 7477 6564

Aviation Strategy

The Principals and Associates of Aviation Strategy 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
- ✈ Due diligence
- ✈ Antitrust investigations
- ✈ Credit analysis
- ✈ IPO prospectuses
- ✈ Turnaround strategies
- ✈ Privatisation projects
- ✈ Merger/takeover proposals
- ✈ Corporate strategy reviews
- ✈ Antitrust investigations
- ✈ State aid applications
- ✈ Asset valuations
- ✈ Competitor analyses
- ✈ Market analyses
- ✈ Traffic/revenue forecasts

For further information please contact:

James Halstead or Keith McMullan

Aviation Strategy Ltd

e-mail: info@aviationstrategy.aero

Subscription Form

Enter my Aviation Strategy subscription for: 1 year
(10 issues - Jan/Feb and Jul/Aug are combined)

- ✈ UK: £450 + VAT @20%
- ✈ EU: €550 + VAT @20% (unless valid VAT number supplied)
- ✈ USA and Rest of world: US\$750

starting with the _____ issue

Delivery Address

Name _____
Position _____
Company _____
e-mail _____
Telephone _____
VAT No _____

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 or Euro cheque made payable to Aviation Strategy Ltd
- Please invoice me
- Please charge my Visa/Mastercard credit card £450+VAT (if required by law)
Card number _____ Expiry _____
Name on Card _____ CV2 _____
- I am sending a direct bank transfer of the the relevant sum net of all charges to Aviation Strategy's bank account:
Duncan Lawrie Ltd, 1 Hobart Place, London SW1W 0HU
IBAN: GB44 DULA 6093 7711 3243 40
Sort code: 60-93-77 Account no: 11324340

Invoice Address

Name _____
Position _____
Company _____
Address _____

Country _____
Postcode _____

PLEASE RETURN THIS FORM TO:

Aviation Strategy Ltd
Davina House, 137-145 Goswell Road
London EC1V 7ET, UK
e-mail: info@aviationstrategy.aero
Tel: +44(0)207-490-4453, Fax: +44(0)207-504-8298
VAT Registration No: GB 162 7100 38