Aviation Strategy

Issue no. 224

March 2017

Norwegian: Global LCC

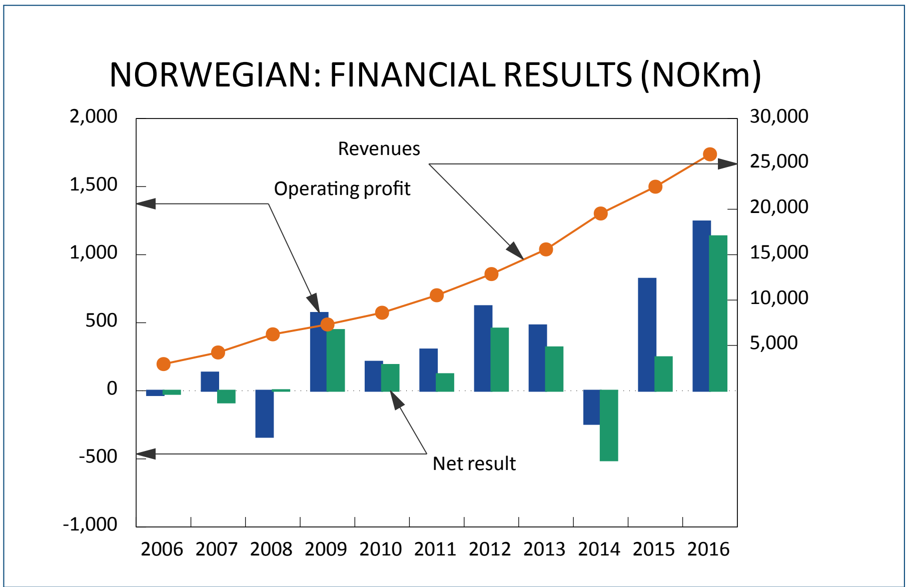
NORWEGIAN Air Shuttle proudly announced that in 2016 it generated its best results ever. Revenues topped NOK26bn ($3bn) — up by 16% year-on-year — and published operating profits grew five-fold to NOK1.8bn ($215m) as did net income to NOK1.1bn. Norwegian, Europe's third largest LCC has been embarking on an audacious plan to take the low cost revolution to the long haul markets and is now set to enter a period of major expansion in that arena — enough to worry the established long haul network players and threatening to make the long-haul low cost model the new disruptive force in the industry.

Norwegian originally started long haul operations in 2008 flying to Dubai from Oslo, Copenhagen and Stockholm using 737-800s. It started its exploration into the long haul widebody markets in 2013 — aiming to take advantage of Norway joining the EU-US open skies agreement in 2011 — with the delivery of 3 787-8 aircraft (supplemented by leased-in A340s) operating initially from the three Scandinavian capitals to Bangkok, New York and Fort Lauderdale.

In the first year of operation it carried just under 200,000 passengers on a load factor of 89%. By the end of 2016 it had 12 787s in its fleet on which it had carried 1.9 million passengers (6% of the group's total 29.3m pax) on a 93% load factor. The route network had been expanded to include Los Angeles, San Francisco's Oakland airport, Las Vegas, New York, Orlando and Boston, while it started long haul flights out of London Gatwick in 2014 and Paris in 2016.

It has taken a highly innovative approach to establishing its route network. Firstly, it has set up bases at the *other end of the route* (eg in New York, Bangkok and Fort Lauderdale) and appears to have received temporary dispensation from the requirement to staff Norwegian registered aircraft with Norwegian nationals.

Secondly, it has established subsidiary airlines with AOCs in Ireland and the UK, partly to regularise its employment ambitions but more importantly to enable it to access international route rights from those countries otherwise denied to it by existing Scandinavian bilateral air service agreements: as an effective EU carrier under the EU-US open skies agreement it is able to operate routes between any European and US points, but with its Norwegian AOC is limited to operate routes to other countries (not covered by an EU



Published by Aviation Strategy Ltd

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.

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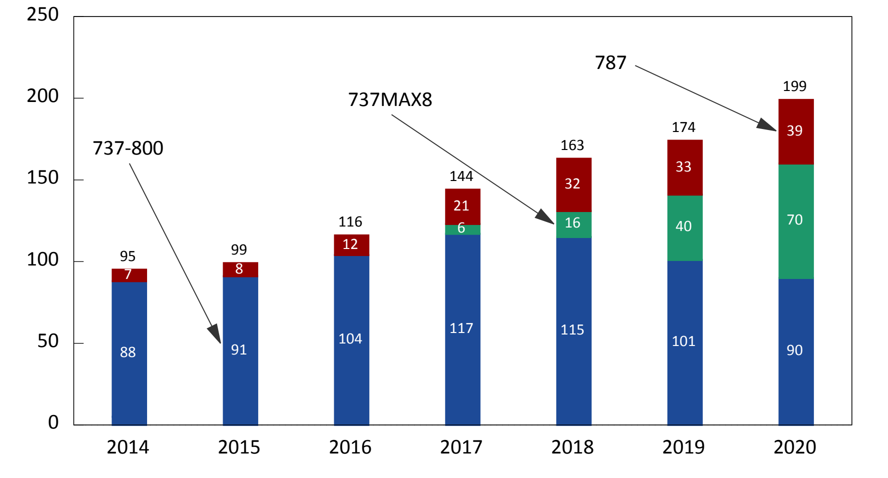
ISSN 2041-4021 (Online)

NORWEGIAN: FLEET PLAN



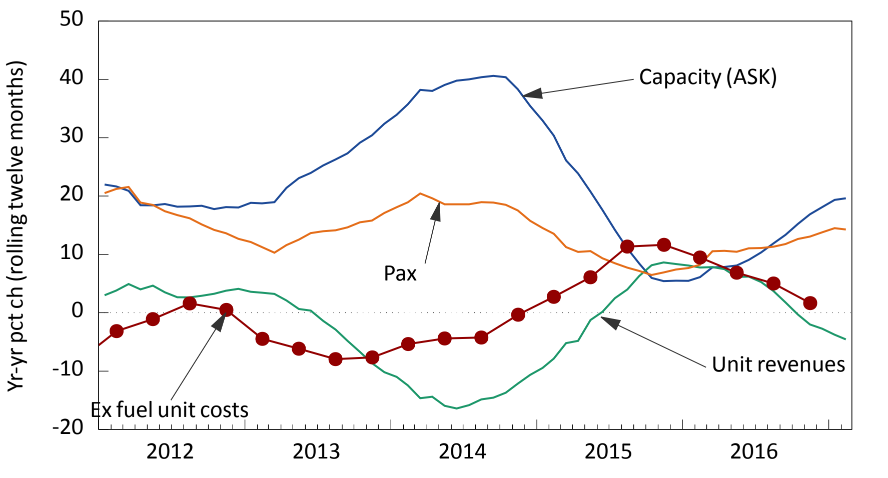
horizontal agreement) according to its home country's existing bilaterals.

Thirdly, it has imaginatively developed routes to help offset the seasonal imbalance on its short haul European operations that fit in with its long haul bases. For example it operates winter routes from the French Caribbean, Guadeloupe and Martinique (which amazingly are part of the EU and therefore come under the US-EU open skies agreement) using 737s to Boston, New York and Baltimore (this year adding services to Fort Lauderdale).

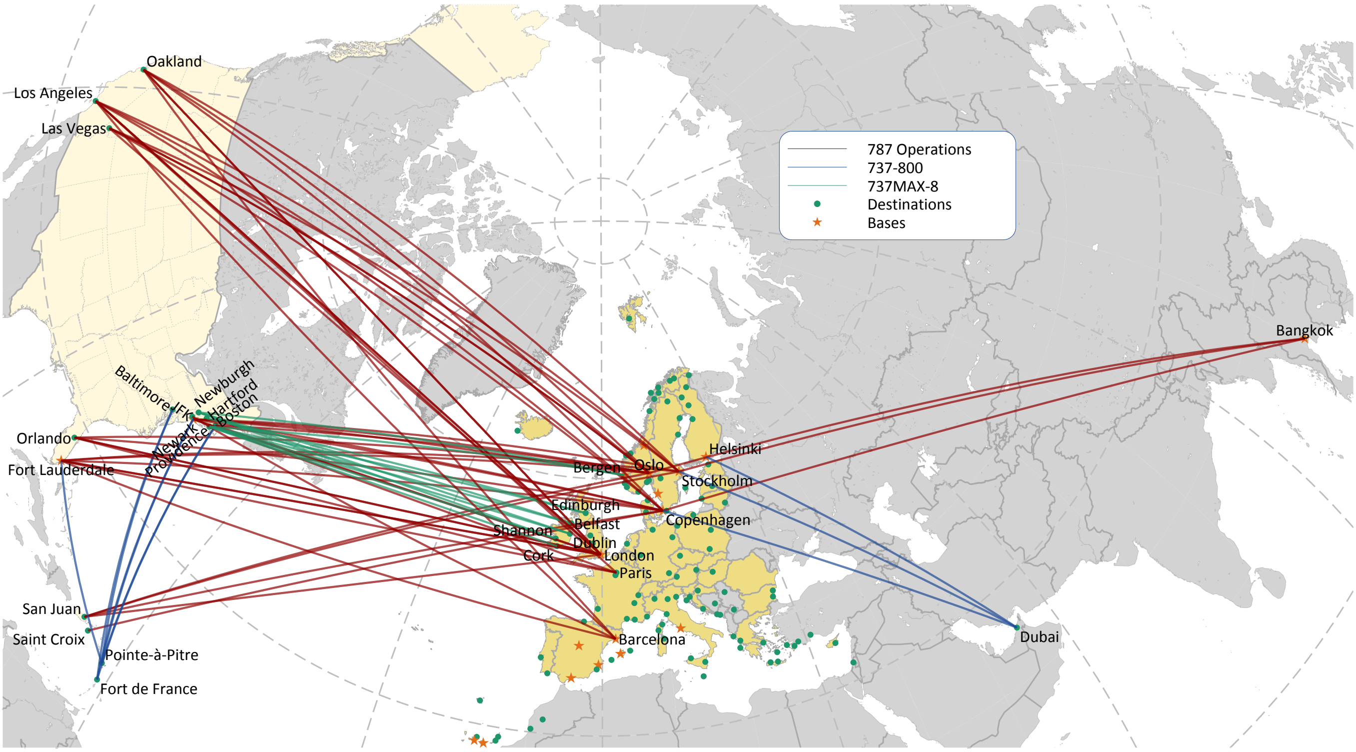
In this recent winter season, it took a step further and operated charter services for local travel service companies from Milwaukee and Chicago Rockford Airport to the Caribbean and Mexico.

This expansion has taken place despite the delay in getting approval from the US to operate flights to the US under the Irish granted AOC (Norwegian Air International) or the UK AOC Norwegian UK. The company applied in 2013 for a US foreign air carrier permit for NAI but encountered belligerent opposition from the ma-

NORWEGIAN OPERATING DATA



NORWEGIAN: LONG HAUL NETWORK



jor US carriers and employee groups with the complaint that the establishment of an airline in Ireland or the UK was, as ALPA has stated, “in order to take advantage of these countries’ less-restrictive labor and regulatory laws” and equivalent to the flags of convenience “that led to the destruction of the US shipping industry”.

The US DoT gave tentative approval to the Irish subsidiary in April 2016 and finalised the approval in the last days of the Obama administration stating, seemingly reluctantly, that “regardless of our appreciation of the public policy arguments raised by opponents, we have been advised that the law and our bilateral obligations leave us no avenue to reject this application”.

The airline’s British subsidiary, Norwegian UK, started its application to the DoT for an exemption and permit in December 2015, but in June last year was denied exemption while the final decision on NAI was pending.

This has all now become a little more complicated following the UK referendum and British decision to leave the EU. There is a distinct possibility that the UK will no longer have access to the European Common Aviation Area possibly resulting in the need for any UK airline to prove it has majority of UK rather than European shareholders.

Subsequently, the UK would presumably fall out of the EU-US open skies agreement and the British Transport minister Chris Grayling recently stated that it was “vital that we seek to quickly replace EU-based third-country agreements, like the US and Canada … that’s something we are working on at the moment”.

Growth acceleration

Norwegian is planning a significant increase in the rate of growth in the next couple of years. The company is set to add nine 787-9s in 2017 and a further 11 in the following year giving it a fleet of 32 by the end of 2018. It shows plans suggesting that the total capacity in terms of ASKs represented by the Dreamliners will grow by 60% in the current year and double in the next. It is also taking delivery of the first six 737Max-8s (it has 108 of the type on order with an additional 92 options) and 17 new 737-800s (four of which are for replacement). This will lead to a 20% capacity increase in 2017 for the narrowbody fleet and a group combined total growth of 30%.

While adding frequency to existing 787 routes it is also starting services from Barcelona to Fort Lauderdale, New York, Los Angeles and Oakland; Gatwick and Copenhagen to Oakland.

Norwegian has also announced it will start services in June using the new 189-seat 737 MAX-8s from Cork, Shannon, Dublin, Edinburgh, Bergen and Belfast to secondary airports on the US East Coast: Providence (Rhode Island, 40 miles/60 km from Boston), Stewart Airport (New York State, 60 miles north of Manhattan), and Hartford (Connecticut, 100 miles midway between the other two). These are all relatively small airports — Providence and Hartford each respectively with 3.65m and 2.93m terminal passengers last year while Stewart saw a throughput of only 280,000 — where landing fees are likely to be quite a bit lower than at the primary airports. Comparing airport charges is an arcane art but, as an example, Stewart charges $1.53 per thousand pounds of MTOW compared with $6.33 at JFK and $8.15 at Newark.

The company has generated a high level of publicity and interest from offering low lead-in fares below £100/€100 one-way, possibly a bit more than is warranted. The level of industry attention is perhaps indicative of the way that the established carriers see this model as a serious potential threat when Norwegian has a tiny portion of the market. From our analysis of the schedules, Norwegian will have a 1.5% share of the total number of seats on transatlantic routes which compares with a 5% share for other low cost operators and a 9% share for the superconnectors while the rest is effectively sew up by the three ATI-immunised joint ventures.

Nevertheless, imitation may be the sincerest form of flattery and British Airways has reacted to Norwegian's expansion in Gatwick by increasing seating density and flying head-to-head in direct competition, while IAG is setting up a new low cost airline, Level, using high density A330s and based initially in Barcelona (where Vueling should be able to provide feed). Willie Walsh, IAG's CEO explains: "having learnt the lessons of being slow to adapt many years ago to shorthaul low cost, IAG is determined to play its part in the longhaul market".

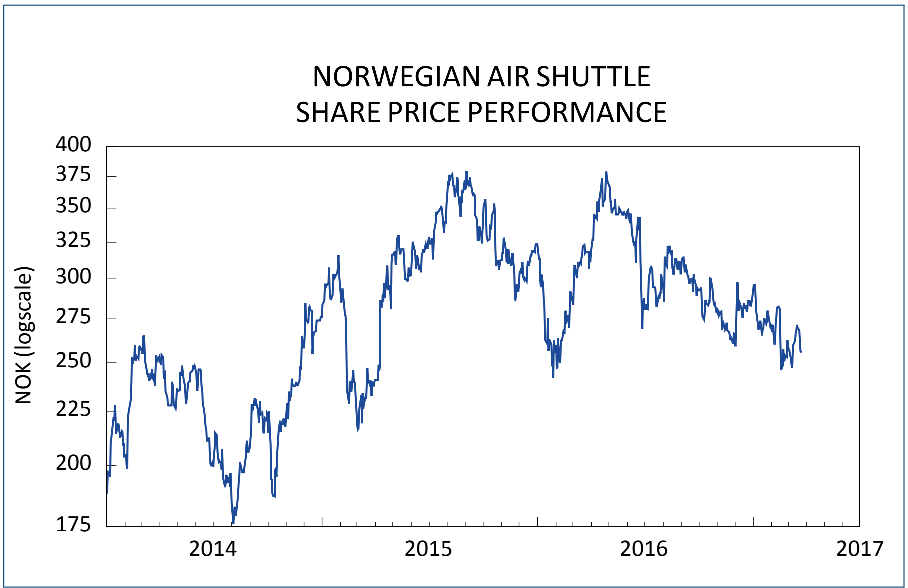
"Best ever annual results"

The 2016 results were good, for Norwegian. The NOK1.1bn net profit came on the back of an 18% increase in capacity (in ASK terms) in the year, a 20% growth in RPK (and a 1.5 point increase in load factor to 88%). Yields fell by 5%, unit revenues by 3% and unit costs by 3% year on year. The total number of passengers carried grew by 14% to 29.3m while the average stage length increased by 5% to just short of 1,500km. The results were helped by lower fuel prices (total fuel costs were down by 2% year on year despite the growth) but flattered by significant swings in non-operational accounting items. Underlying operating profits nevertheless increased by 50% to NOK1.24bn up from NOK822m. This however represents a relatively poor 4.8% operating margin and a return on invested capital of only 4%.

The balance sheet meanwhile remains weak (see table on the facing

NORWEGIAN: BALANCE SHEET DATA

NOKm	2015	2016
Fleet and property	24,812	30,100
of which Aircraft PDP	*5,939*	*7,156*
Investments	910	1,430
Intangible assets	800	440
Fixed assets	**26,523**	**31,969**
Cash etc	2,454	2,677
Other current assets	2,657	3,117
Current assets	5,111	5,793
Short term debt	(3,041)	(4,769)
Other current liabilities	(7,692)	(8,642)
Current liabilities	(10,733)	(13,411)
Net Current Assets	**(5,622)**	**(7,617)**
Total assets	**20,901**	**24,352**
Long term debt	16,543	18,706
Other long term liabilities	1,392	1,597
Equity	2,965	4,038
Minorities		11
Shareholders' funds	2,965	4,049
Total Liabilities	**20,901**	**24,352**
Adj Net debt/equity	1175%	1075%
Adj Net debt/Capital employed	138%	140%



page). Shareholders' funds improved to NOK4bn, but with NOK6.5bn in capital expenditure in the year against operational cash flow of only NOK3bn, total debt increased by NOK3.9bn and adjusted net debt (including capitalised leases) stood at ten times the net asset value.

A substantial portion of the balance sheet relates to future aircraft deliveries: not only is there NOK7.1bn in pre-delivery payments accounted for in the fixed assets (24% of the total) but 7% of the gross debt, or NOK1.6bn, relates to (presumably) relatively expensive PDP debt finance.

Capital expenditure is set to continue at a high rate. Along with the aircraft acquisitions planned for its own fleet it will be taking 3 A320neos into its Irish based leasing company (Arctic Aviation Assets) in 2017. The first two of its 100 aircraft order (+100 options) were delivered in 2016 and leased out to HK Express, as will these next three. Seven further A320s originally due for delivery in 2017 have been delayed.

The company is guiding to capital expenditure of $1.8bn and $2.1bn for each of 2017 and 2018 for deliveries and pre-delivery payments. The management however appears sanguine about the future ability to fund this spending and state that "financing is on track". (It at least has the opportunity to pursue ExIm and ECA guaranteed financing which already account for the funding of a third of the fleet).

It is also guiding to a forecast of unit costs of 39-40 øre per ASK for 2017, a modest 4% decline from the 41 øre achieved in 2016 despite the strong anticipated growth. Part of this is due to the understandable build up of expenses in the ramp-up of development in intercontinental services over the next two years. At the same time unit revenues appear to be under severe pressure having expected to have fallen by 13% and 11% in the first two months of this year (albeit the worst seasonally speaking).

Bank Norwegian

Bjørn Kjos (Norwegian's founder and CEO) is one of those innovators that ignores established perceived wisdom. No other airline would have thought of vertically integrating a bank as a strategic play, but ten years ago he established Bank Norwegian as an internet bank and credit card issuer. Part of the reason for the move was to get around Norway's ban on the use of frequent flyer loyalty programmes (following the takeover by SAS of Braathens SAFE six years previously) in being able to offer loyalty points to credit card holders for flights on Norwegian. It moved into Sweden in 2013, and Denmark and Finland in 2015.

It ended 2016 with 120,000 depositors, 150,000 loan takers and 675,000 credit card holders and a solid balance sheet. Co-located in the Norwegian Air Shuttle head-quarters in Oslo Fornebu, it only employs 62 full-time equivalent personnel but generated profits for the year ended December 2016 of NOK960m with assets of NOK30bn and equity of NOK3.3bn. Not far short of Norwegian's own figures.

Norwegian Air Shuttle was only allowed to retain a 20% stake. The bank was listed on the Oslo stock exchange in 2016 and currently has a respectable market capitalisation of NOK13.9bn ($1.6bn) — 50% higher than that of Norwegian Air Shuttle's own market cap. Norwegian's 20% stake would provide an additional NOK2.5bn to its own equity and improve its own balance sheet ratios. Part of this valuation however must relate to the close brand relationship between the two companies.

Conclusions?

Another quote from Willie Walsh: "I like what Bjørn Kjos has done and I have great admiration for him. I think he has yet to crack the profitability bit, but margins are improving and they are generating cash."

The highly-competitive airline industry thrives on innovation and Norwegian's management has shown its ability to think laterally. First-movers don't always succeed; we hope this one will.

Aviation Strategy

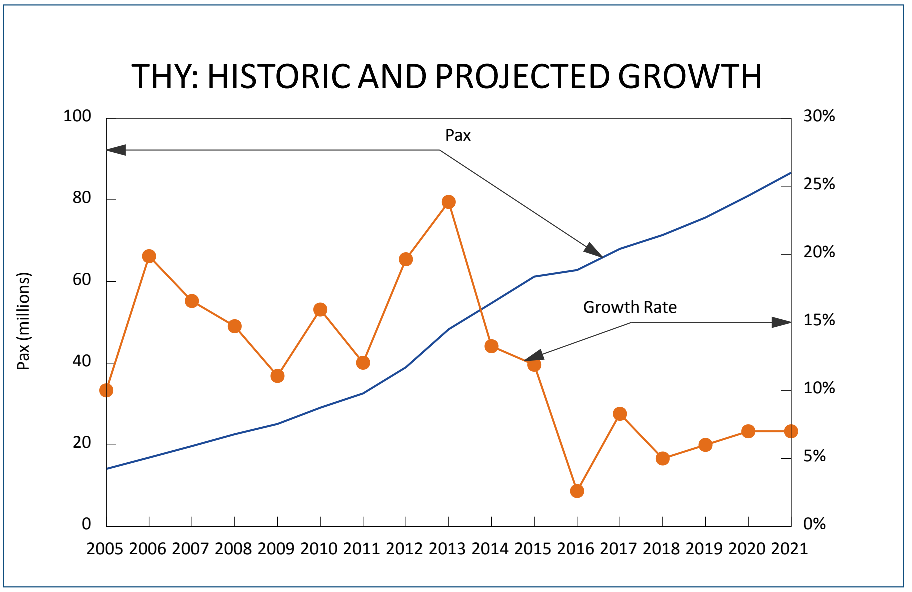
THY: A test of its resilience

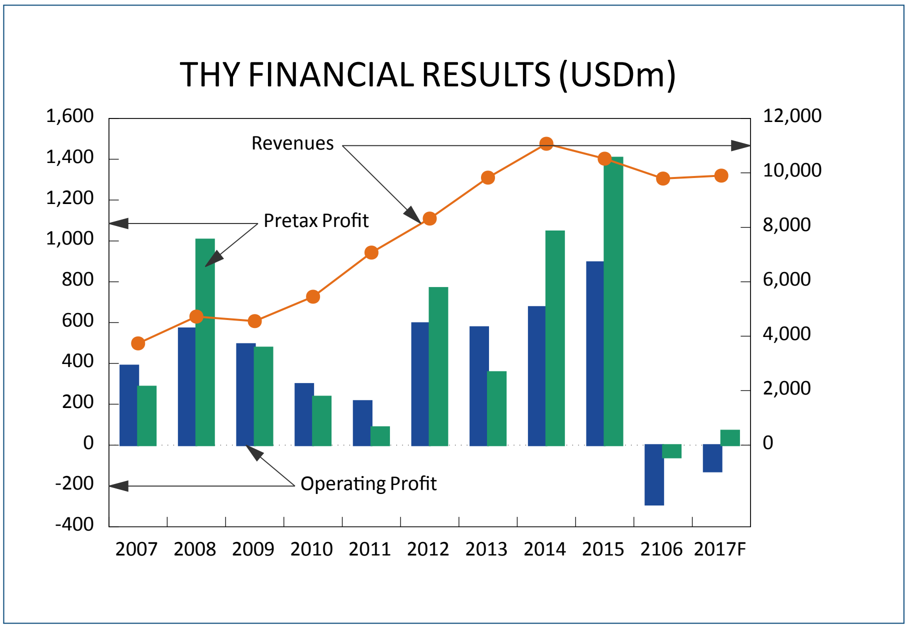
THY's decade of rapid expansion and consistent profitability came to a juddering halt in 2016. Short term prospects are at best mixed, but the Turkish flag-carrier's narrowbody-orientated global hub model still appears resilient in the longer term.

Until early last year Turkey was seen as an oasis of stability in the Middle East, with the prospect of an agreement between the EU and Turkey to extend visa-free travel, for up to one year, for all Turkish citizens to, from and within the Schengen area. There was ongoing speculation about EU membership. Then in July there was an ineffectual attempt at a coup to depose President Erdoğan, followed by a clamp-down, arrest and sacking of those implicated, however tentatively, in the coup, increased involvement in Syria and terrorist attacks. Relations with European countries, notably the Netherlands and Germany, have been strained, and President Erdoğan has appeared unnecessarily belligerent towards the country's major trading partner. Meanwhile, European officials have called for reforms to civil rights in Turkey to reverse what is seen as a move towards authoritarianism, pushing Turkey further away from the Western world. On April 16, there will be a referendum which could consolidate President Erdoğan's position for a decade and extend his administrative powers. The outcome is finely balanced.

Buffeted by political, social and economic turmoil, THY's total revenue in 2016 fell by 7% to $9.79bn; this time last year, management were forecasting a 12% increase in turnover. The operating result was a loss of $291m compared to a profit of $895m in 2015. PBT income was a loss of $59m against a profit of $1.41bn in 2015. In summary, 2016's operating margin was -3.0% against an average profit margin of 6.3% for the period 2011-15; the net loss margin of 0.6% contrast with an average profit margin of 7.8% for 2011-15.

The CEO since 2005, and architect of THY's transformation into a global carrier, Temel Kotil, quit last October,





moving to Turkish Aerospace Industries, a $1bn turnover state-owned corporation, while the former head of the civil aviation authority, Bilal Ekşi, has taken over at THY. The challenge for Ekşi is to continue Kotil's commercial dynamism in a changed political climate.

The full privatisation of THY has been removed from the government's agenda. In February the 49% of THY's stock owned by the state was transferred into a sovereign wealth fund, along with state-owned assets in Türk Telekom, Halkbank and other companies. The idea is to leverage this equity to provide funds — $200bn has been indicated — for the government's ambitious infrastructure projects. Critics of the fund have described it as an example of the "Erdoğanization" of the economy, raising concerns that capital will be directed more by political rather than economic aims.

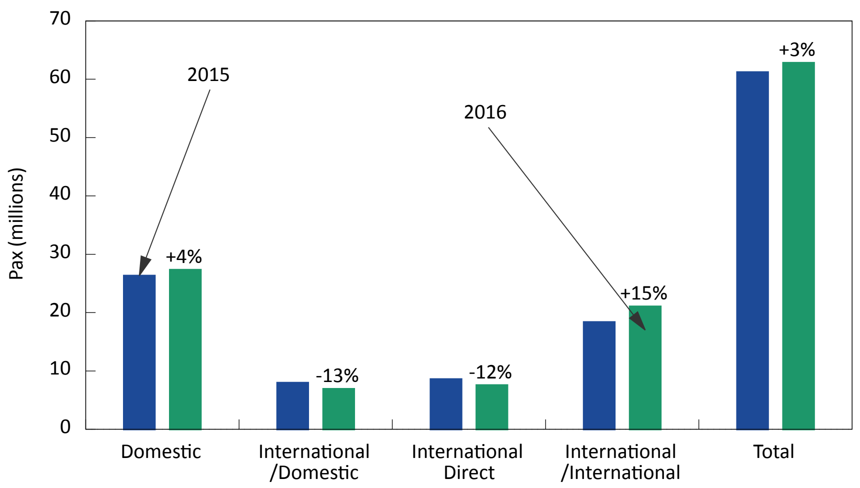
There has been no perceptible impact, either way, from the transfer on THY's share price, which has declined by a third over the past year. The airline is currently valued by the equity market at $2.1bn, slightly more than the Air France Group but less than a third of Lufthansa Group's $6.3bn. The Lufthansa comparison has been psychologically important for THY — its stated aim had been to overtake Lufthansa as Europe's premier hub airline by 2020 (but on what measurement?). Recently THY and the Turkish CAA have tended to focus on the contrast between London Heathrow's third runway saga and the scale, and civil engineering efficiency, of the new İstanbul airport.

THY BALANCE SHEET

US$ millions	2016	2015
Fleet and Property	13,456	11,415
Investments and Intangibles	1,434	1,822
Fixed Assets	**14,890**	**13,237**
Cash etc	1,815	962
Other Currents Assets	1,786	2,184
Current Assets	**3,601**	**3,146**
TOTAL ASSETS	**18,491**	**16,383**
Short Term Debt	2,421	1,013
Other Short Term Liabilities	2,076	2,858
Current Liabilities	**4,497**	**3,871**
Long Term Debt	**8,907**	**7,670**
TOTAL LIABILITIES	**13,404**	**11,541**
Retained Profit	3,551	3,628
Other items	-61	-383
Share Capital	1,597	1,597
EQUITY	**5,087**	**4,842**
TOTAL EQUITY & LIABILITIES	**18,491**	**16,383**
Debt as % of Assets	***72.5%***	***70.4%***

Turkish tourism collapsed in 2016; visitor arrivals fell by 30% to 25.3m from 36.2m in 2015. Germany remained by some margin the largest origin country but volumes dropped to 3.9m from 5.6m. Russia, the biggest growth market in the 2000s, imposed a travel ban with the result that tourist arrivals evaporated to under 0.9m from 3.6m the previous year.

THY: 2016 CHANGES IN TRAFFIC



Yet the Turkish economy has performed reasonably well. Real GDP growth in 2016 is estimated at just under 3% compared to 4% in 2015. The OECD in November commented that "uncertainties are high but fiscal and monetary policies are supportive", but GDP growth is forecast to improve to 3.3% in 2017 and 3.8% in 2018.

In fact, THY managed an overall 3% increase in traffic in 2016 — 62.8m passengers against 61.2m in 2015. The tourism collapse did have a direct impact but only on the two smallest segments of THY's network — international direct traffic and international/domestic connecting traffic — while domestic traffic was solid and, importantly, THY's global hub operation continued to expand — in-

CONTRAST BETWEEN EMIRATES AND THY MODELS

	Cities served		Annual Seats (000s)		Round trips		Average Aircraft Capacity	
	Emirates	THY	Emirates	THY	Emirates	THY	Emirates	**THY**
Western Europe	31	66	20,726	20,006	23,683	56,640	447	178
Southeast and Northeast Asia	15	11	11,585	2,270	13,379	3,592	433	316
Indian Subcontinent	17	6	12,211	1,291	15,734	2,190	388	295
China (inc Hong Kong)	5	4	3,124	978	3,485	1,402	448	349
Sub-Saharan Africa	13	18	6,070	1,930	7,599	5,236	399	184
North America	13	11	5,592	2,626	6,595	4,015	424	327
Russia and Central Asia	2	28	4,136	2,604	1,085	12,200	430	169

Note: Based on analysis of 2016 schedules

ternational to international connecting traffic was up a remarkable 14%. In short, the political situation does not seem to have had had a profound impact on THY's role as a super-connector.

However, THY's traffic growth last year was significantly outpaced by capacity growth, 10.7% in ASKs against 6.3% RPKs. Overall load factor fell to 74.6% from 77.6%. The domestic load factor was reasonable, 82.1%. down from 83.3%, but international loads slumped to 73.5% from 76.8% (continuing a decline from 79.3% in 2014). So, despite parking 21 aircraft in the second half of last year, THY international network is operating at roughly ten percentage points below optimal levels, and management is planning for only a two point improvement this year.

Unit revenues suffered: RASK slumped by 15.8% (14.3% if the effect of the depreciating Lira is excluded). The severest falls were in the regions where THY comes into close competition with the super-connectors: Middle East -24%, Americas, -19% and Asia/Far East, -16%

Unit costs did fall too — CASK was down by 3.8% but only because fuel costs were down 19%. Disturbingly, if fuel and currency effects are factored out, CASK would have risen by 3.1%. THY has put in place a $500m across-the-board cost reduction programme. Also, management has recently reached an agreement with the Turkish Civil Aviation Union for a pay freeze in 2017 in return for a guarantee of no redundancies (Turkish price inflation rate is running at about 8%).

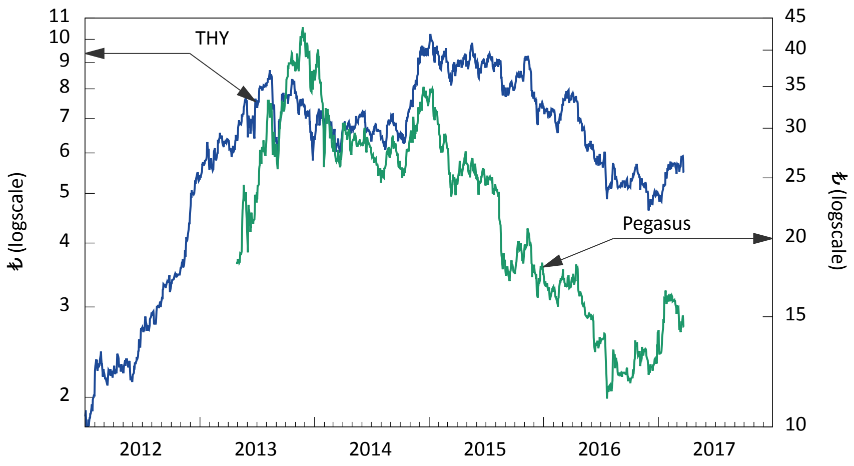
THY has an cost advantage in labour costs against its European network carrier rivals, but perhaps not as much an vantage as might be expected — according to its own calculations, personnel costs per ASK were US cents 1.1 in 2016 against 1.3 at Lufthansa. The concern for THY is that exponential network growth, where adding a destination would add a multiple of connecting city-pairs and hence traffic — THY calls it diagonal growth — is slowing down.

THY vs Emirates

As well as its local problems, THY is being impacted by overcapacity in the super-connector sector; Emirates, Qatar and Etihad have all seen supply outstrip faltering demand, and their financial performance has deteriorated (*Aviation Strategy*, December 2016). A rumour about a rationalising merger between Emirates and Etihad has been stoutly denied.

Whereas Qatar and Etihad are

SHARE PRICE PERFORMANCE



basically smaller scale copies of the Emirates model, THY's hub system is distinct, based on narrowbody aircraft, and with a broader geographical scope — THY has 117 country markets against 77 for Emirates.

A comparison of Emirates' and THY's route networks, summarised in the table on the preceding page, condenses some of the key differences between the two models.

Although Emirates' international seat capacity is more than double that of THY, THY has an important domestic market, accounting for 43% of its total traffic. And whereas Emirates relies on connecting traffic for about 85% of it total passenger throughput, THY's international connecting traffic is only 33% of its total.

Turkey is, after the US, the most important aviation market for the EU, with about 40m passengers a year. Whereas Emirates concentrates on European global hubs and main cities using widebodies, THY coverage extends over large, medium and small cites (for example, Friedrichshafen and Leipzig in the core German market).

THY's strategy is to consolidate numerous thin traffic flows from Europe, where it offers roughly the same seat capacity as Emirates but more than twice the frequencies, through Istanbul to numerous Asian and African destinations, bypassing both European and Middle Eastern hubs. This appears to be a robust niche but the risk is intensified by competition from LCCs.

Last year an EU-Turkey open skies agreement seemed to on the cards but political developments have stymied that development, leaving in place the current system of horizontal EU bilaterals, which permit EU carriers to fly to/from any EU state to Turkey, but which excludes EU carriers, ie LCCs like Ryanair, from the Turkish domestic market.

THY dominates the Central Asian market operating in effect as flag carrier for many of the "Stans", while Emirates focuses solely on Moscow and St Petersburg, where THY offers roughly the same overall capacity but at much higher frequency.

Sub-Saharan Africa illustrates an important aspect of THY's approach — offering service to a wide number of cities that have very expensive or non-existent direct flights from Europe and elsewhere. Whereas THY goes into countries like Chad, Niger and Angola. Emirates concentrates most of its widebody capacity on South African points.

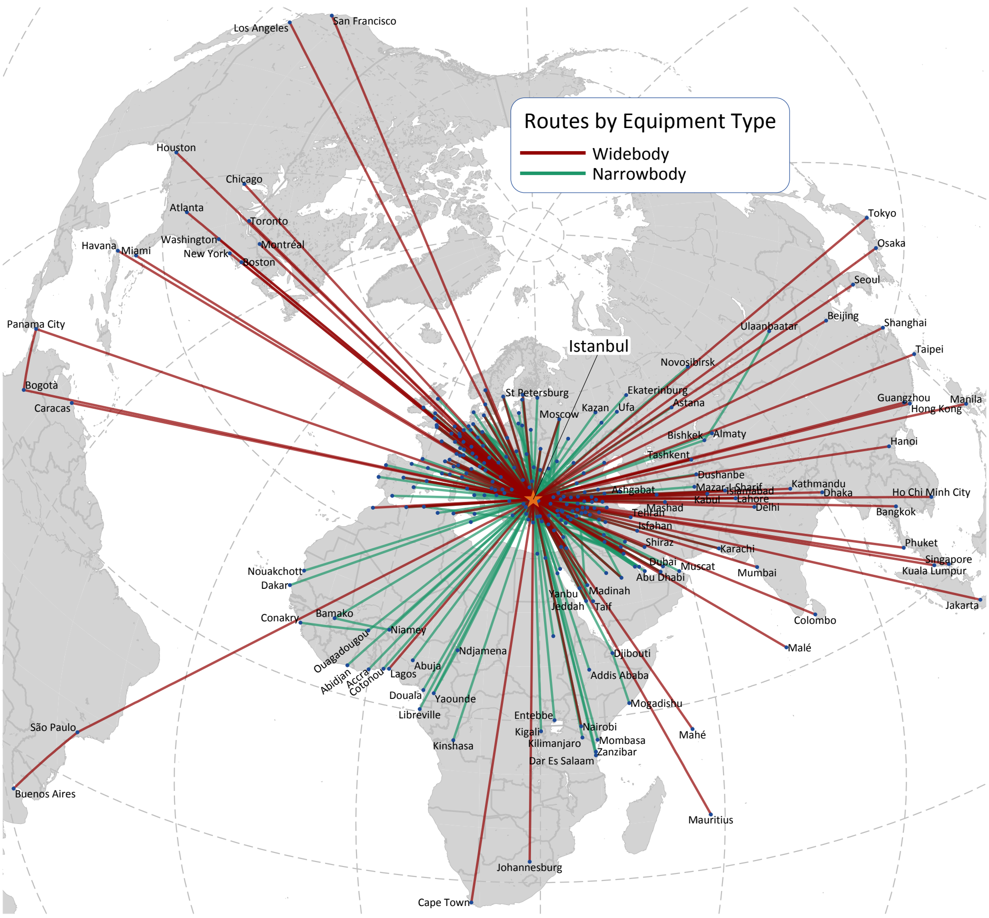
Looking east, THY appears to be at a disadvantage relative to Emirates' network. In the Indian, Chinese, Southeast and Northeast Asian markets, THY is not only eclipsed by Emirates in terms of capacity and frequency, but also it generally serves the same airports, and its lower average aircraft capacity must place it at a cost disadvantage to Emirates.

Finally, there is the North American market where THY, despite being a super-connector, has not been targeted by the US Big 3's "open and fair skies" campaign. But it has now been caught up in the US's, followed by the UK's, laptop ban (incidentally, no US carrier flies to Istanbul). The Turkish Minister for Transport has complained to the US authorities about the ban, pointing out the high standard of security at Istanbul; THY to its credit has come up with a good solu-

THY FLEET PLAN

		2016	2017	2018	2019	2020	2021	2022	2023
Widebodies	A330-200	20	18	18	16	13	13	8	5
	A330-300	31	37	37	37	37	37	37	29
	A340	4	4	4	4	4	4	4	4
	777-300ER	32	33	33	32	30	30	30	30
	Total	**87**	**92**	**92**	**89**	**84**	**84**	**79**	**68**
Narrowbodies	737-900ER	15	15	15	15	15	15	15	15
	737MAX-9				5	10	10	10	10
	737-800	110	108	97	96	88	86	82	78
	737-700	1	1	1	1				
	737MAX-8			7	19	38	53	65	65
	A321 neo			3	21	39	59	77	92
	A319	13	7	7	6	6	6	6	6
	A320	29	22	19	12	12	12	12	12
	A321	66	68	68	68	66	64	64	64
	Total	**234**	**221**	**217**	**243**	**274**	**305**	**331**	**342**
Cargo	A330F	8	9	9	9	9	9	9	9
	777F		2	2	2	2	2	2	2
	Wet Lease	5							
	Total	**13**	**11**	**11**	**11**	**11**	**11**	**11**	**11**
	TOTAL	**334**	**324**	**320**	**343**	**369**	**400**	**421**	**421**
	Seat Capacity % change		0%	-1%	5%	5%	7%	4%	2%

THY ROUTE NETWORK



Note: Azimuthal equidistant map projection based on Istanbul. Great circle routes appear as straight lines.

tion whereby laptops are handed in on boarding and securely protected during the flight.

Short and longer term outlook

Emirates and the other Middle East super-connectors have all reined in the fleet expansion, but THY has gone one step further — it is planning for zero seat capacity growth this year and next, a contrast from the 15% growth rates of recent years. It will probably dispose of some of the 16 remaining parked aircraft, especially the A340s. Deliveries of about 40 737MAXs and A321neos have been shifted from 2018-2020 to 2021-2023.

The fleet plan (see table on the preceding page) is based solely on narrowbody growth with the widebody fleet likely to decline in size. Putative orders for 787s and/or A350s appear to have been put on hold, and there is no chance of THY opting for A380s, new or used.

Management is "cautiously optimistic" (always a dubious phrase) about 2017, noting that forward bookings for April are well up in the previous year. If passenger volumes do perk up, then THY should be in a relatively good position, as, with no capacity growth, the effect will feed through directly into load factors, and, hopefully, unit revenues. The airline has addressed controllable costs, personnel and sales/marketing/distribution (and it is apparently looking at changing depreciation, which will have no fundamental benefit) but it is exposed to fuel. It has hedged about 47% of its 2017 requirements at around $53/barrel of Brent Crude (currently $52/barrel).

Aircraft capex, PDP net payments and debt service will increase from $1.6bn in 2016 to around $2bn in each of 2017 and 2018, which, according to THY's own projections will double free cash outflow from $290m in 2016 to $587m and $697m in 2017 and 2018.

There is also $1.2-1,5bn in costs associated with moving operation from Atatürk to İstanbul New Airport (INA), which is tentatively scheduled for 2018.

The aim is for INA to overtake Heathrow as Europe's largest global hub by the late 2020s, even if Heathrow complete the third runway by then. Initially, INA will have capacity for 2,000 daily flights and 90m passengers; this will rise, when the third phase is completed INA will have six runways and a capacity of 200mppa.

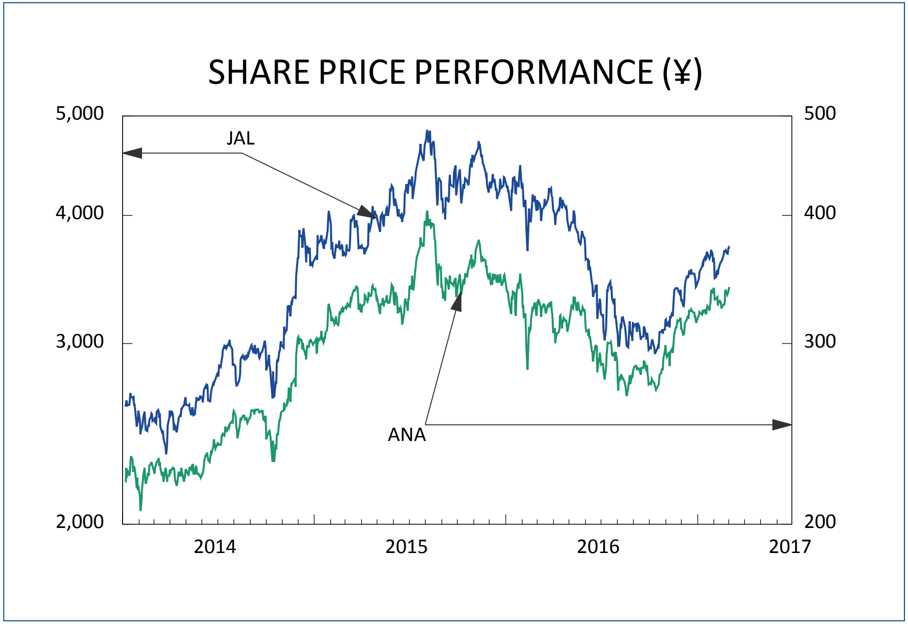
The long term vision of shifting Europe's centre of aviation gravity to İstanbul is clear, but recent events have revealed just how vulnerable Turkey (and many others countries, including those in Western Europe) are to political unpredictability.

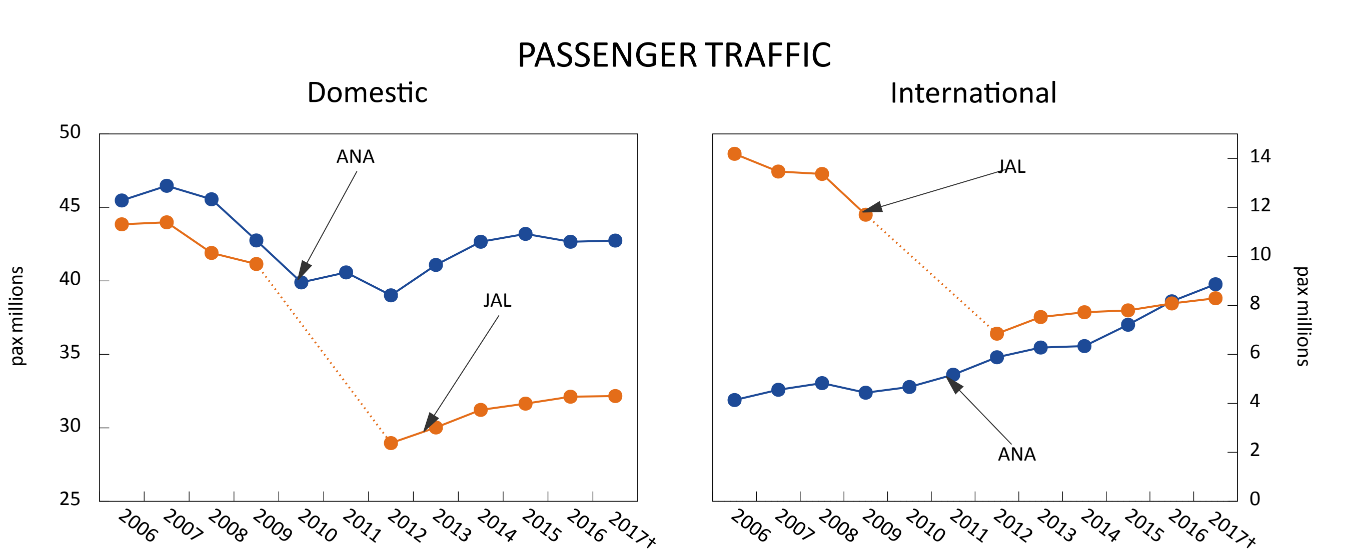
Japanese Majors: Balancing growth, rewarding shareholders

AFTER many turbulent years, Japan Airlines (JAL) and All Nippon Airways (ANA) face yet more watershed events: the imminent ending of the post-bailout restrictions on JAL's growth at the end of March and a likely significant increase in Haneda airport slots in the run-up to the 2020 Tokyo Olympics. What will it all mean in terms of network growth, subsidiary-building, competitive dynamics and profitability?

It has been an eventful decade for Japan's two leading carriers. First, JAL ended up in bankruptcy in January 2010. The 14-month restructuring and ¥350bn ($3.1bn) government bailout transformed JAL into a much smaller carrier with an impeccable balance sheet and abnormally high profits.

But the government went overboard helping JAL. Since Japan has only two large airlines, JAL's bailout and the Chapter 11-type process created a profoundly uneven playing field. Before JAL's stock market relisting in September 2012, the government sought to redress the inequalities by imposing restrictions on JAL's ability to make investments and launch new routes. The government began favouring ANA over JAL in route and slot allocations. Since then ANA has received most of the





Source: company reports. Financial years ending March. Note: † 12 months ended Dec 2016 valuable new slots that have become available to Japanese carriers at Tokyo Haneda.

As a result, ANA had a major growth spurt and in the year to end March 2016 overtook JAL as Japan's largest carrier in terms of international passengers (see chart on the previous page).

ANA had already overtaken JAL in terms of system revenues in 2011.

JAL, in turn, began outperforming ANA financially. Post-bankruptcy, JAL has been achieving annual operating margins in the 13-17% range, compared to ANA's 5-8% margins.

These developments coincided with Japan entering a new competitive era for airline operations, thanks to a massive increase in airport capacity in the Tokyo metropolitan area in 2010-2013, new open skies ASAs that liberalised access to Tokyo and new facilities provided by airports for LCCs.

Haneda's maximum ATMs rose by 43% in 2010, when the airport was also opened to scheduled international flights. Narita saw a 40% increase in total slots in 2013. At least three airports — Osaka's Kansai, Okinawa's Naha and Tokyo's Narita — have opened LCC terminals (LCCTs).

For JAL and ANA, those developments brought both growth opportunities and escalated competition from foreign airlines, including many Asian LCCs.

Characteristically, JAL and ANA moved in tandem in their responses. First, the airlines, which were the world's first two operators of the 787, undertook new long haul expansion with that aircraft type beginning in 2012. Even JAL, despite its growth restrictions, has been able to add to its network new US cities such as Boston, San Diego and Dallas.

Second, the airlines forged immunised joint ventures first in the US-Japan/Asia market in 2011 (JAL with American and ANA with United) and in the Europe-Japan market in 2012-2013 (JAL with BA and ANA with Lufthansa). The JVs have been developed to include more markets and more airlines.

Third, JAL and ANA launched their own Japan-based joint venture LCCs.

These airlines have enabled JAL and ANA to retain leisure market share but have had a negative impact on the domestic pricing environment. The jury is still out on whether they will offer their owners a satisfactory return on investment.

The LCCs appear to have modestly stimulated Japan's domestic market, which is large but has long stagnated in terms of full fare/business travel (declining population, competition from bullet trains, etc). But their penetration has been slower than expected — only around 10% of the domestic market in 2015, compared to the initial projections of 17-20% by 2013.

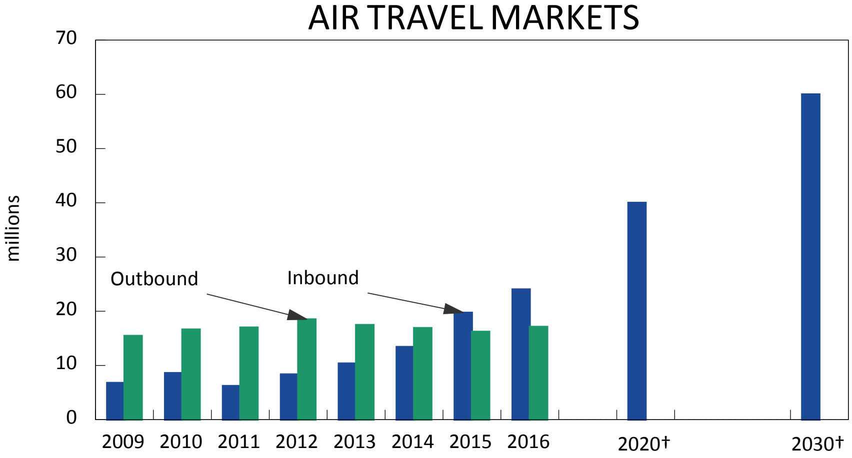
But LCCs are making steady inroads. The sector now includes companies that are partly owned by foreign airlines and have no JAL or ANA involvement. The first of that crop is Spring Airlines Japan, which launched in 2014. The second one will be AirAsia Japan, a Nagoya-based LCC that the Malaysia-based AirAsia group expects to launch by mid-2017 as its second attempt to build an LCC in Japan.

Prospects in the domestic market are hampered by Japan's continued economic stagnation. The IMF is projecting only 0.8% and 0.5% real GDP growth for the country in 2017 and 2018, respectively, after 1% growth in 2016. Encouragingly, though, Japan's outbound air travel market showed a surprising 5.6% uptick in 2016, after shrinking three years in a row mainly because of a weaker yen. The uptick is likely to have been a result of LCC stimulation.

Inbound tourism boom

One bright spot has been a surge in inbound tourism to Japan since 2012, mainly because of a weaker yen but also aided by government policies such as a relaxation of visa require-

JAPAN'S INBOUND AND OUTBOUND AIR TRAVEL MARKETS



Notes: 2016 includes preliminary foreign visitor figures for December. † New targets set by the government in March 2016. Source: Japan National Tourism Organization (JNTO) ments. It has helped boost JAL's and ANA's profits in recent years.

The multi-year surge has been all the more heartening because it began the year after the devastating March 2011 earthquake, tsunami and nuclear accident in north-eastern Japan, which caused visitor numbers to plummet by 28% in that year.

Foreign visitors to Japan have almost tripled in the past four years, from 8.4m in 2012 to an estimated 24m in 2016. In 2015 the inbound segment exceeded the outbound segment (see chart on the facing page; the figures include visitors from cruise ships).

Having exceeded its goal of 20m foreign visitors annually by the 2020 Tokyo Olympics four years ahead of schedule, the Japanese government last year doubled the 2020 target to 40m and set a target of 60m for 2030. The government also set lofty goals for tourist spending, repeat visitors and visitors to regional destinations. Prime minister Shinzo Abe reportedly stated: "Tourism is an important pillar of our country's growth strategy and a trump card for regional revitalisation. It is also an engine to boost growth to achieve the ¥600 trillion GDP goal."

Tourism is a rare success story for the Abe administration and the political will now seems to be there to make things happen. The government has outlined numerous measures to aid the tourism industry, including easing regulations on private accommodation and revamping the immigration process at airports.

There have been new promotional efforts to attract more tourists from Europe, the US and Australia. According to JNTO (Japan National Tourism Organization), 41% of the record spending by overseas tourists in Japan in 2015 was by Chinese visitors, who are such big shoppers that the Japanese have a word for it: *bakugai*, or explosive buying. Although that market is now slowing, it will remain important because of its sheer size (see *Aviation Strategy*, Jan/Feb 2017).

Importantly, a further significant increase in Haneda airport slots now seems highly likely. Haneda suffers from airspace restrictions because of its position between a military air base and Narita. The government's proposals to establish new approach routes over central Tokyo have apparently received no specific objections from municipalities or community groups. The new arrival corridors would facilitate the bulk of the planned increase in Haneda slots of up to 39,000 (from the current 447,000 slots annually) by the 2020 Olympics.

Additional measures, such as the construction of more taxiways and a new international boarding area in ANA's domestic terminal, will also enable Haneda to handle more flights and passengers. Work is scheduled to begin later this year on large-scale renovations that will allow international flights to use the revamped Terminal 2 from March 2020.

All of the additional 39,000 slots at Haneda would be allocated to international service, boosting the airport's daytime international operations by 50%. This will obviously benefit not just JAL and ANA but also European and US airlines.

Infrastructure projects at Narita and elsewhere will add capacity and improve facilities also for LCCs. There are at least two more LCCTs in the pipeline: a second one at Kansai (for international flights, due to open this spring) and one at Nagoya's Chubu Centrair, expected to open by 2018 or 2019.

The transport ministry announced in January that it would discontinue the restrictions on JAL's growth at the end of March because a "sound competitive environment has been ensured" (something that ANA has said it disagrees with).

The interesting question is whether JAL will ramp up growth significantly. Rewarding shareholders is also a fashionable strategy in the Abe era.

For ANA, the question is whether there will be more acquisitions and where the next moves might be. Or will ANA prioritise shareholder returns and closing the margin gap with JAL?

In the following sections *Aviation Strategy* discusses the recent developments at ANA and JAL in turn.

ANA: Vision of customer satisfaction and value creation

SINCE JAL's restructuring ANA has moved aggressively to strengthen its market position. It has roughly doubled its international ASKs in the past five years, embarked on a "multi-brand strategy", acquired minority stakes in other carriers, diversified into new growth areas and placed large aircraft orders.

However, ANA has also accomplished impressive cost cutting, which has helped it remain competitive with JAL and consistently post annual operating margins in the mid-to-high single digits.

In the nine months ended December 31, ANA's financial trends were better than JAL's, reflecting successful cost controls but also slightly better revenue performance. Its operating income rose by 11.5%. The 9.8% operating margin was only 4.3 percentage points behind JAL's, indicating that ANA may be gradually closing the margin gap, even as it continues double-digit international capacity growth.

For the full fiscal year ending March 31, ANA is projecting revenues of ¥1,740bn ($15.7bn, down by 2.9%), operating income of ¥145bn (up 6.3%), an operating margin of 8.3% (up 0.7 points) and a net profit of ¥80bn (up 2.3%).

ANA has a strong balance sheet, with more in assets than JAL but around seven times as much debt (as it has not benefited from a restructuring). At year-end 2016, ANA had total assets of ¥2,261bn ($20.4bn), an equity ratio of 40.6%, interest-bearing debt of ¥726.7bn and a debt-equity ratio of 0.8%. ANA's corporate credit ratings are the same as JAL's (A-).

ANA is one year into its five-year "corporate strategy" plan for FY2016-2020, which was released in January 2016. The plan set out lofty new growth and financial targets in line with a vision of being the "world's leading airline group in customer satisfaction and value creation".

The key components of the plan are, first, to grow international revenues (both passenger and cargo) by 40% and international ASKs by 50% in the five-year period, while maintaining domestic mainline revenues and ASKs at current levels.

Second, ANA is looking to increase revenues from its "LCC division" by at least three times and establish Vanilla Air as the number one LCC in the Tokyo metropolitan area.

Third, ANA signalled its desire to remain strong in the so-called resort market by announcing an order for three A380s (a new fleet type) for the Tokyo-Honolulu route.

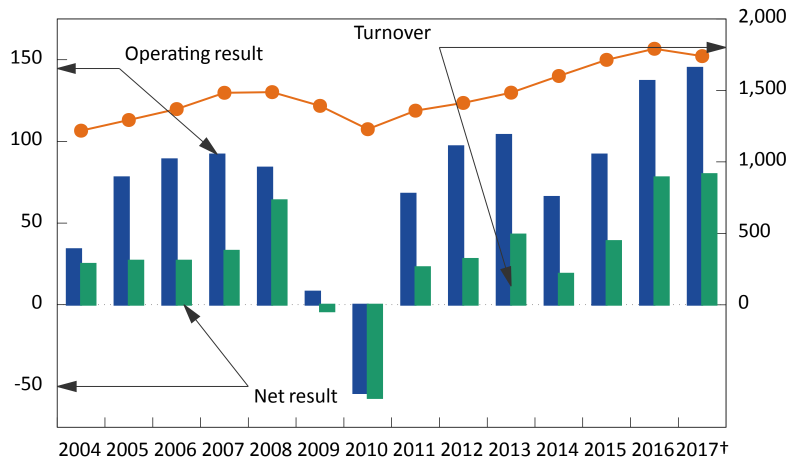
Fourth, ANA is looking to create new non-airline businesses and accelerate the growth of existing ones, to meet demand for aviation-related services in Asia or capture spending by foreign visitors.

Fifth, ANA is targeting an operating profit of ¥200bn, operating margin of 9.3%, ROE of 9.8% and ROA of 7.6% in the financial year ending March 2021.

The financial targets seem modest, but perhaps they are realistic in light of the ambitious growth plans and increasing competition. The aim is to maintain high enough profitability and ROE to support the growth plans while maintaining a stable dividend.

Those forecasts will, of course, be updated at some point. ANA said in January that it was looking to enhance shareholder returns and would also evaluate share buybacks. (It paid out ¥17.5bn/$156m in dividends or

ANA HOLDINGS FINANCIAL RESULTS (¥bn)



Notes: Financial years ended March 31. †Forecasts by ANA (affirmed January 27).

ANA HOLDINGS: FLEET

	In service			
	Owned	Leased	Total	Orders
737 Classic	18		18	
737 NG	31	12	43	
767-300	12		12	
767-300ER	13	12	25	
767-300F	8	4	12	
777-200/300	19	2	21	
777-200/300ER	22	12	34	
777-9X				20
787	52	5	57	26
A320ceo	10	14	24	
A320neo	1		1	33
A380				3
Dash 8	20	1	21	
MRJ90				15
Total	**206**	**62**	**268**	**97**

¥5 per share in June 2016 for the previous financial year.)

Notably, in the plan ANA signals a desire to be a major player in both business and leisure markets. Always known for its high-quality full-service offering, ANA now also sees LCCs as a core future "profitability foundation".

In other words, ANA could become the aviation equivalent of Amazon, catering for every kind of travel need, which is similar to Delta's thinking (see *Aviation Strategy*, Jan/Feb 2017). Of course, ANA is also similar to Delta in terms of its interest in acquiring minority stakes in multiple airlines and investing in non-airline activities.

ANA has bolstered its US and European networks in recent years, adding cities such as Seattle, San Jose, Vancouver, Houston, Brussels and Düsseldorf with the help of the 787. Late last year ANA finally linked Haneda with New York and Chicago (777-300ERs), using newly awarded daytime slots.

Another notable new addition was Narita-Mexico City in mid-February. The route uses 787-8s, targets business travellers in Japan (particularly automakers) and competes with Aeromexico's service.

But the Asia/Pacific region continues to be ANA's main focus. For example, this summer season ANA is adding Narita-Wuhan (its 11th city in China) and Narita-Phnom Penh in Cambodia (a country that is enjoying explosive growth).

In April-December 2016, Asia/Oceania's share of ANA's international passenger revenues rose by 2.3 points to 30.6%. North America's, Europe's and China's shares all declined (to 31.6%, 19% and 13.9%, respectively). The "resort" category accounted for the remaining 5% (up 0.5 points).

The five-year plan mentioned new services to "white spots in Asia and Central and South America". Also, ANA is further strengthening its dual-hub strategy in Tokyo with the creation of three daily banks: morning and late night (Haneda) and evening (Narita). Under the dual-hub strategy, Narita caters for North America-Asia transfers and Haneda international-domestic connections.

Domestically, ANA aims for "solid improvements in efficiency while maintaining market share". The A321ceo, introduced in November, and later the A321neo will pay key roles in those efforts.

Cargo is an important business segment for ANA, which aims to become "one of the world's top-five carriers in terms of freight handled" by the financial year ending March 2021. The focus is on developing an integrated logistics service across Asia and further developing the Okinawa cargo hub.

There are no notable new developments on the alliance front. The five-year plan sees more integration for existing JVs (with United and Lufthansa/Swiss/Austrian).

ANA has a steady stream of new aircraft coming in to support growth and to modernise the fleet. The five-year plan, which does not include Peach, targets a group fleet of 300 aircraft at the end of March 2021, of which ANA and its regional units will operate 275 and Vanilla 25. The year-end 2016 fleet was 268 (ANA 257 and Vanilla 11).

ANA has placed two major orders, both split between Boeing and Airbus: a $15bn, 70-aircraft order in March 2014 (its largest ever) and a $2.3bn, 15-aircraft order in January 2015.

Highlights have included, first, selection of the 777-9X as a successor to the 777-300ER (20 on order with deliveries from FY2021).

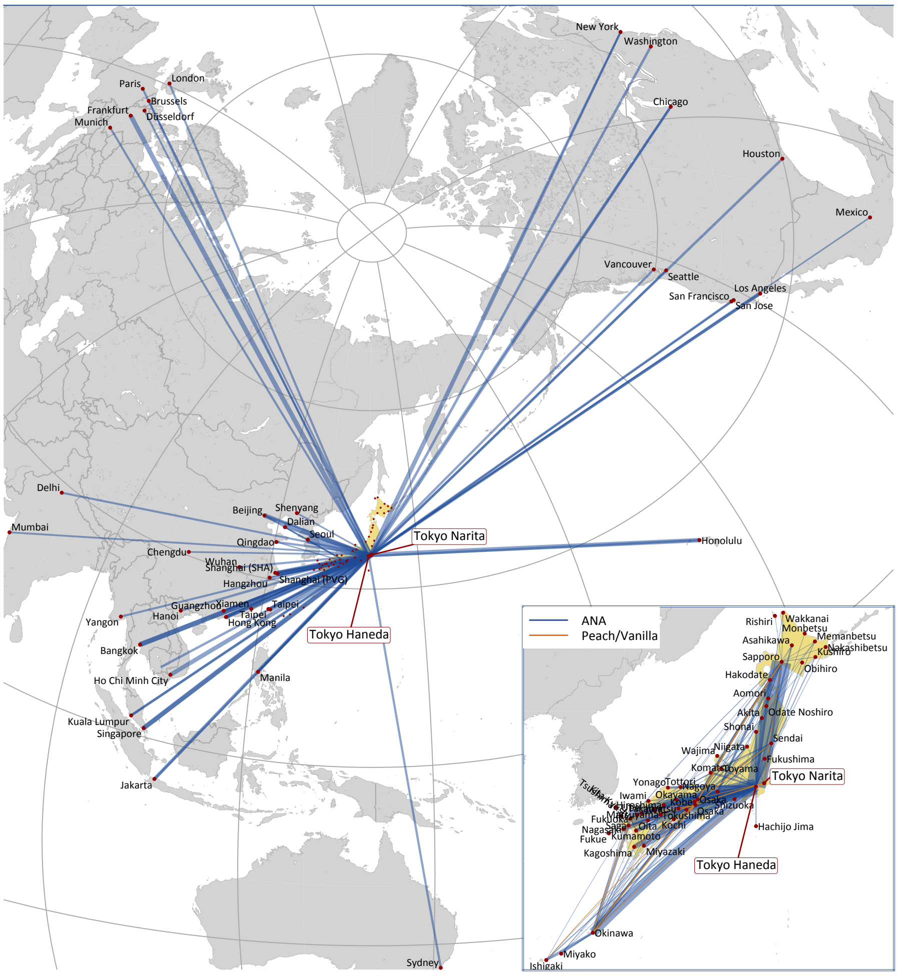
Second, ANA has ordered more 787-9s and its first three 787-10s. It has now ordered 83 787s in total, of which 57 had been delivered at year-end 2016.

Third, there was the January 2016 order for three A380s, which will be used to upgrade Tokyo-Honolulu operations from 2019.

Fourth, ANA has ordered seven A320neos and 26 A321neos, which will replace its 737-500s and A320ceos in domestic and Asian operations. The first A320neo arrived in December, and the A321neo deliveries will begin in the year ending March 2018.

ANA will also deploy the MRJ, which it launched with a 25-aircraft order in 2008. The type is currently

ANA ROUTE NETWORK



Note: Azimuthal equidistant map projection centred on Tokyo. Thickness of lines related to number of seats operated.

expected to enter service in 2020, six years behind the original schedule.

The multi-brand strategy kicked off in 2012 with the launch of the two joint-venture LCCs, Peach Aviation and AirAsia Japan. When the relationship with AirAsia soured, ANA bought its partner's 49% stake for ¥2.45bn ($22m) in 2013 and rebranded the carrier as Vanilla Air.

Narita-based Vanilla began growing in early 2016. ANA says that it is creating new demand domestically and capturing inbound tourism demand, especially from China and to Okinawa. ANA also sees it entering new resort destinations. The five-year plan hinted at quite an extensive Asian network by 2020 and mentioned cost reductions and new "high-performance aircraft".

In a notable development in February, ANA announced that it would acquire 28.3% of Peach shares from its two JV partners (First Eastern and INCJ), to raise its stake to 67%. The transaction, expected to close on April 10, will make Peach ANA's second consolidated LCC subsidiary.

Kansai-based Peach, which also has hubs at Narita, Okinawa and Sendai, is the most successful of the new crop of LCCs. It operates 18 A320s on 13 international and 14 domestic routes, has a strong brand and became profitable in 2013. In FY2015/16 Peach achieved an operating profit of ¥6.1bn on revenues of ¥47.9bn.

Peach is now entering the ANA fold because the three shareholders decided that it would be the best way to accelerate its growth in its next phase of development, which will see more Asian expansion and possibly a longer-range aircraft type. The owners talked about "leveraging Peach's corporate culture and brand with ANA's proven track record of airline expansion".

It seems like a logical move. Peach and Vanilla have different hubs and operate from different terminals at Narita, so ANA will be able to cover more LCC markets more quickly. However, since the two will play similar roles in the group and target similar markets, the dual-LCC strategy may not work indefinitely; but if so, ANA will have the option to merge Vanilla and Peach.

ANA switched to a holding company structure in 2013, which will make it easier to run multiple autonomous airline brands and, it hopes, will minimise revenue dilution at the full-service carrier.

Like JAL, ANA has a bewildering number of consolidated subsidiaries (63) and equity-method affiliates (17), but most of those provide the typical airline support functions (catering, hotels, etc). ANA laid the foundations for the strategy of diversifying into new growth businesses in 2013 by establishing an investment company in Singapore.

The key diversification moves have included venturing into the global pilot training business and moving to become a major player in aircraft maintenance in Asia.

In 2013 ANA acquired Miami-based Pan Am Holdings and its subsidiary Pan Am International Flight Academy for around $138m. In 2014 it set up a Pan Am unit in Thailand. In the five-year plan, ANA said that it was working to strengthen ties between its Miami, Bangkok and Tokyo based pilot training activities.

In 2015 ANA established an aircraft maintenance company, MRO Japan, in Okinawa as part of a consortium, with ANA holding a 45% stake. The venture began operations at Osaka's Itami airport but will transfer to new facilities at Okinawa's Naha airport in the second half of FY2017. MRO Japan provides base and heavy maintenance for many aircraft types and has great prospects for attracting new business from Asian carriers, including LCCs.

Among the more unusual investments, in December ANA bought a 7% stake in PD Aerospace, Japan's only developer of manned spacecraft. It was only a ¥20.4m ($182,000) investment, so there were probably not too many complaints from investors and analysts.

ANA's 2013 plans to acquire a 49% stake in Myanmar carrier Asian Wings fell through. ANA pulled out of the deal in July 2014, citing inability to come to an agreement following changed external circumstances (intensified competition in Myanmar).

But a later deal to acquire an 8.8% stake in Vietnam Airlines for $109m was completed successfully in July 2016. Vietnam Airlines was already better established, with Star membership and sizeable international and Japanese operations, but it will still benefit from ANA's know-how. The airlines launched codesharing in late 2016 and ANA has nominated a director to sit on Vietnam Airlines' board.

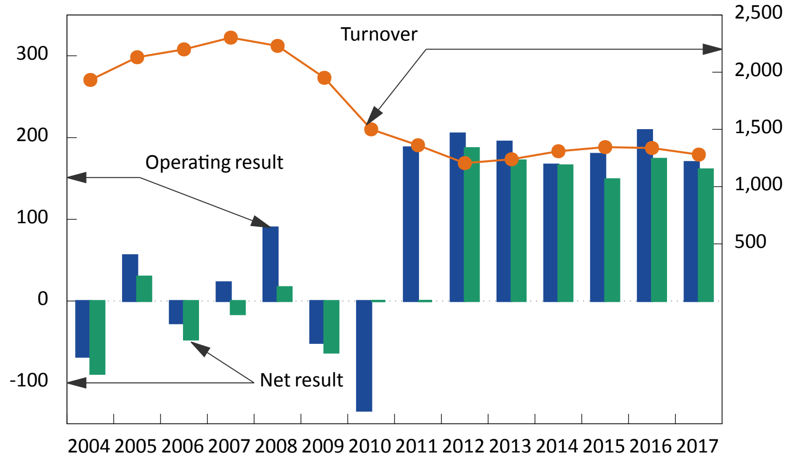
On the domestic front, ANA "sponsored" Skymark Airlines, Japan's first LCC, out of bankruptcy in a court-led deal that was approved in August 2015. ANA owns 16.5%, codeshares with and provides maintenance support for the Haneda-based carrier, which officially emerged from bankruptcy in March 2016. Skymark remains independent and hopes to relist on the stock market. The main benefit of the investment to ANA was probably defensive: preventing Delta, which had also sought to sponsor Skymark, from gaining a foothold in Japan's domestic market.

JAL: "Aim" to be Most Preferred and Valued airline group

JAL is just coming to the end of its first post-bankruptcy "medium-term management plan", which was for the years 2012/13 to 2016/17. The (very) broad aim was "to become the world's most preferred and valued airline group".

JAL has achieved the financial targets in the plan, namely a 10% or higher operating margin for five consecutive years and a 50%-plus equity ratio in 2016/17. Both targets were exceeded a year early in FY2015. But, in its assessment, it has not achieved targets related to customer satisfaction, especially on regional domestic routes. However, JAL is getting much praise internationally, and in 2015

JAL GROUP'S FINANCIAL RESULTS (¥bn)



Notes: Financial years ended March 31. 2017 Forecasts by JAL (affirmed January 31).

it won a prestigious "best economy class airline seat" award from Skytrax.

In the nine months ended December 31, JAL's operating income declined by 19.2% and net income by 24.7%. Operating revenues were down by 4.7%. However, the nine-month operating margin of 14.1% still exceeded the 10% target.

The weaker results reflected a host of factors: lower domestic passenger revenues caused in part by price competition; lower international revenues resulting from currency effects and elimination of fuel surcharges; a stronger yen; and higher maintenance and labour costs, which almost offset the decline in fuel prices.

Labour costs rose because of a hike in basic wages following a review. JAL has been under pressure on that front since the cuts implemented in bankruptcy. The airline nicely described the wage increases as "priority investments in human resources to strengthen the foundation for growth".

For the full fiscal year ending March 31, JAL is projecting revenues of ¥1,280bn ($11.5bn, down by 4.3%), operating income of ¥170bn (down 19%), an operating margin of 13.3% (down 2.4 points) and a net profit of ¥161bn (down 7.5%).

JAL's balance sheet is in good shape, with total assets of ¥1,625.3bn ($14.6bn), an equity ratio of 56.8%, interest-bearing debt of ¥96.2bn and a debt-equity ratio of 0.1% projected for March 31.

While JAL will not be releasing its next medium-term plan till late April, much is known about the management's general thinking and plans for the year to end March 2018 have already been announced.

The main thrust of the next plan will be to respond to the expected slot increase at Tokyo airports in the lead up to the 2020 Olympics. However, JAL's top executives have indicated in recent interviews that there would be "no sudden shift" when the bailout restrictions end and that future growth will be disciplined (in single digits). In April-December 2016 JAL's system ASKs declined by 0.4%.

It will be international growth, focusing on the US and the Asia-Pacific. To start with, in April JAL will add a Haneda-New York JFK route using a Haneda daytime slot freed by another service. It will also boost Narita-JFK capacity by switching from 787-8s to the larger 777-300ERs and will add more seasonal service to Moscow and Honolulu.

JAL's international network is nicely balanced, with America accounting for 26%, Europe 16%, Asia/Oceania 33%, China 10% and Hawaii/Guam 15% of its international passenger revenues in April-December 2016.

Post-bankruptcy, JAL has been pursuing a "high quality, full service" strategy on international routes. This has included introducing aircraft configured with the "Sky Suite" business class, available on the 777s, 767s and 787s. JAL first offered it to Europe and the US and is now taking it to Asian markets.

Because of its drastic earlier downsizing, JAL has benefited enormously from alliances. Among other things, the JV with American enabled JAL to return to DFW after a 14-year absence in late 2015 and offer its customers same-day connections to Latin America on American.

JAL has also expanded its JV operations with BA and Finnair, which started in 2014. In an interesting twist, JAL's Narita-Frankfurt flights were recently added to its cooperation with Finnair. Last year Iberia joined the JAL/BA/Finnair JV, so JAL now benefits from three partner hubs in Europe.

Domestically, there will realistically not be much growth for the full-service carriers, but JAL is trying to hold onto market share by improving its product. It recently completed the conversion of all of its mainline do-

JAL GROUP'S FLEET

	In service				
	Owned	**Leased**	**Total**	**Orders**	**Options**
737 NG	34	29	63		
767-300	6		6		
767-300ER	30	2	32		7
777-2/300	16		16		
777-2/300ER	24		24		
787	31		31	14	25
A350				31	25
E170/190	22		22		
CRJ200	7		7		
MRJ90				35	
Dash-8	13	2	15		
ATR42				9	
Saab 340	12		12		
Total	**195**	**33**	**228**	**89**	**57**

Source: JAL

mestic fleet to the "Sky Next" configuration, which offers perks like internet access and free videos.

JAL's regional units are keen participants in the Abe administration's regional revitalisation efforts, playing a role in flying foreign tourists to various parts of Japan. There is growing competition in that market, though, in the form of LCCs that operate international flights directly to Japan's regional airports.

Fleet

In bankruptcy JAL shed more than 100 aircraft, switched to smaller and more fuel-efficient types and rationalised the mainline fleet from seven to four types. At year-end 2016 the 172-strong mainline fleet comprised 40 777s, 31 787s (of which six were 787-9s), 38 767-300/300ERs, 11 737-400s and 52 737-800s. The regional fleet consisted of 56 aircraft (see table on the preceding page). There is now some overlap, with one regional subsidiary operating 737-800s.

The orderbook includes, notably, firm orders for 31 A350s — an historic deal signed in October 2013 that gave Airbus a new customer and the A350 its first buyer in Japan. Many had expected JAL to stick to an all-Boeing mainline fleet, but JAL has said that the A350 offered better economics even after taking into account the inefficiencies of operating two different manufacturers' aircraft. The order includes both A350-900s (18) and the longer-fuselage A350-1000s (13), which will gradually replace older aircraft from 2019. JAL also has another 14 787-9s on firm order (plus 25 options).

On the regional front, JAL ordered 32 MRJs in January 2015, with deliveries from 2021. It will be the first passenger aircraft built in Japan since the 1960s. The type will be operated by

JAL ROUTE NETWORK

Note: Azimuthal equidistant map projection centred on Tokyo. Thickness of lines related to number of seats operated.

JAL's 100%-owned subsidiary J-Air.

Another theme domestically is continued replacement of turboprops with RJs. There have been repeat E-jet orders. Last year J-Air added its first E190s. On the turboprop front, Japan Air Commuter (JAC) will deploy its first ATR42-600 in April to develop tourism to a hitherto little-visited archipelago (Amami and Ryukyu Islands). The group has ordered nine ATR42s and holds purchase rights for another 14.

The JAL Group's fleet investment plans are not yet available, but the past three fiscal years' spending provides a rough guide: ¥161-191bn ($1.4-1.7bn) annually.

The next medium-term plan will see continuation of a number of corporate and financial themes. First, with the emphasis now being on profitability rather than growth, JAL wants to construct a system that can withstand external risks such sharp exchange rate and fuel price fluctuations.

A key to achieving that is having a corporate structure that facilitates flexible responses. Among other things, JAL is implementing as a multiyear project the so-called *amoeba* management system, under which "every employee strives to contribute to increasing profits by maintaining a steady focus on maximising revenues and minimising expenses" (a type of enhanced profit centre approach).

Second, JAL continues to improve corporate governance. In the past year it has strengthened its board with the appointment of three independent directors and established appropriate committees.

Third, JAL wants to further enhance financial stability. Having exceeded the earlier 50% equity ratio goal, JAL is committed to raising the target to 60%.

Fourth, JAL is seeking to improve its credit ratings so that it can diversify its financing sources. It has already secured A- ratings from two Japan-based rating agencies — a level that is quite high by global airline standards. In November JAL was able to complete a ¥20bn ($178m) bond issuance, its first in 12 years.

Fifth, JAL is looking to distribute more profits to shareholders. It has already raised its dividend payout ratio from 15% to 25% of annual pre-tax income and expects to complete a ¥30bn ($267m) share buyback by the end of March. That will be in addition to ¥43.5bn ($387m) paid in dividends in June 2016 — all quite generous in light of FY2016/17's projected free cash flow of only ¥24bn.

JAL's partly-owned LCC JV with Qantas, Jetstar Japan, which is not consolidated in the JAL Group results, has expanded aggressively since its launch in 2012. It has the largest domestic network among the LCCs but required additional cash injections in 2015 and has continued to incur losses. But Qantas said recently that it expected the venture to report a profit for FY 2016.

The JAL Group currently includes five airline subsidiaries in addition to JAL: J-Air, JTA, JAC, RAC and HAC. All are regional carriers except JTA, which is an Okinawa-based 737 operator. However, there are in total 87 consolidated subsidiaries and 59 affiliated companies.

Despite some speculation, JAL may take its time to move deeper into LCC operations. There are probably other priorities. In its latest annual report in July 2016, JAL talked about 10-15 years being the time horizon in which it will "design a business portfolio that is ideal in terms of both growth potential and risk tolerance".

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