2018: Placidity and/or turmoil

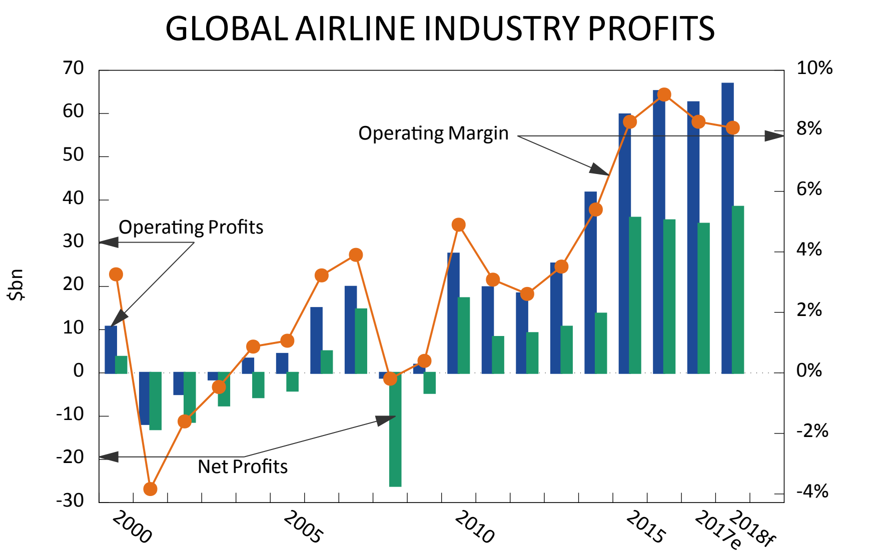
OPTIMISTIC headlines from IATA in its 2018 global outlook — stabilising but historically high net profits globally, demand exceeding capacity, ROIC exceeding WACC — suggest a placid year ahead (though IATA does point out that upturns in the air travel cycle typically last eight years, and we are now in year eight). As usual our observations tend to focus on the turmoil.

2017 saw the end of the Etihad effect on European aviation, with the dismantling of its investments as Alitalia, Air Berlin and Darwin declared bankruptcy — a development that had been long anticipated and which should enable a rationalisation of the sector. Unfortunately, the shadow of Brexit also looms over the continent.

This time last year we said that probably nothing would happen in 2017 with regard to Brexit and aviation. The UK Transport Secretary, Chris Grayling, did his utmost to fulfil this expectation — managing to evade all the difficult questions about a policy he campaigned for, and blandly repeating that there is nothing to worry about as flights from the UK will continue as normal after March 2019 because the Spanish need the income from British tourism. Nothing so far on some vital issues like ownership rules, intra-European operations by UK airlines, UK position in EC bilaterals, EASA regulation, etc.

Until recently we took a bit of comfort from the fact that the government was conducting economic impact assessments on 50-plus industrial sectors, including aviation and aerospace, "in excruciating detail" according to the Brexit Ministry, but it turned out that it wasn't. (For non-UK readers: in December the Brexit Secretary, David Davis, was forced to hand over the assessments to a parliamentary committee, and they turned out to be little more than cut-and-pastes from Wikipedia.)

Some of the latest thinking on aviation Brexit issues plus *Aviation Strategy*'s own attempt to quantify the potential impact on intra-European services was published in the October edition, but we struggled to find constructive answers to the questions posed by the policy. As there is no chance of negotiating a bespoke aviation agreement, or any trade agreement, before March 2019, the official exit date, there are two logical outcomes. First, a hard Brexit where the UK leaves the single aviation market and the liberal regulatory framework it was instrumental in creating — in short, a disaster. Second, a Norway-type solution with the UK becoming in effect an EEA member and British aviation becoming part of the European



Source: IATA

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Common Aviation Area (ECAA). This will be presented as a temporary transitional measure but will probably be long extended — the UK will find itself subject to EU rules but have no influence on setting the rules — which is anathema to the Brexiteers.

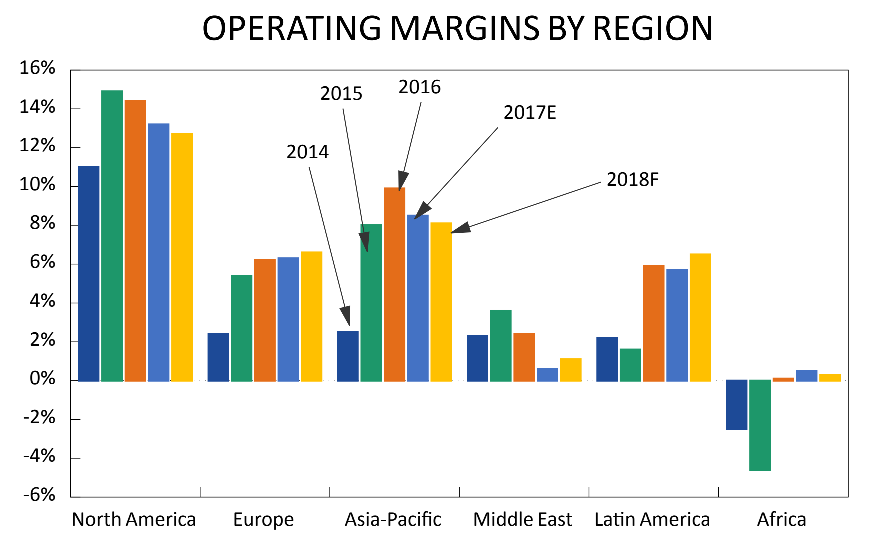
The US

The US has become the main generator of the airline industry's global profitability — the result of domestic consolidation, not just through mergers but also through a consolidation of ownership by investment funds, most notably Warren Buffett's Berkshire Hathaway, which have taken stakes across the four Major airlines.

There are downsides, however. Passengers are not too keen on 84% average load factors, for example, as the leading airlines exert "capacity discipline", which means zero or negative growth. And unions, after the traumatic experience of Chapter 11, are beginning to flex their muscles again. In the first three quarters of 2017, the Majors' average EBIT margin slipped to 18.6% from 22.7% in the same period of 2016, largely the result of higher fuel prices, which the US carriers are particularly susceptible to. Compared to European or Asian airlines, their fleets are quite elderly — Delta's fleet is on average 18 years old, United's 15, even Southwest has a 12-year-old fleet.

Capex programmes are overdue, and President Trump's corporate tax reforms, cutting federal corporation tax rates from 35% to 21% would appear to provide a catalyst. However, the immediate effect on the US airline industry is not that clear.

Looking at the P&L accounts filed within the annual Form 10Ks, it appears that the airlines are taxed at 35%-plus for Federal, State and Other taxes combined. This is officially designated the "effective rate". But the "cash rate" — our term for moneys actually paid over to the tax authorities — for the four Major airlines averaged 2.6% mostly because the Big Three have accumulated in the past a huge amount of NOLSs (Net Operating Losses) against which they provision, rather than actually pay, taxes (United appears to have received a refund in 2016, and Southwest used ac-



Source: IATA

US MAJORS' INCOME TAXES (2016, $bn)

	American	Delta	United	Southwest	Total 4
Revenues	40.18	39.64	36.55	20.42	136.79
PBT	4.3	6.64	3.82	3.54	18.3
PBT Margin	10.7%	16.8%	10.5%	17.3%	13.4%
Provision Income Taxes	1.62	2.26	1.55	1.3	6.73
"Effective" Tax Rate	**38%**	**34%**	**41%**	**37%**	**37%**
Income Tax Paid (Refunded)†	0.01	0.03	(0.42)	0.85	0.47
"Cash" Tax Rate	**0.2%**	**0.5%**	**-11.0%**	**24.0%**	**2.6%**

Source: Form 10k
† estimated by subtracting actual tax cashflow from provisioned tax

celerated depreciation rules to cut its tax bill). In total the Big Three have about $21bn in NOLs at the end of 2016 which can be used to minimise or eliminate tax payments. So, surprisingly, the Trumpian reform isn't as dramatic as presented, at least for the airline industry.

Middle East

The Middle East airlines — specifically the super-connectors, Emirates, Etihad and Qatar — have been hit by a storm of negative events — the ban on electronic items on flights to the US and Europe, the US Fair Skies campaign, the collapse of Etihad's' investment strategy and the Arab embargo against Qatar.

Political events have exposed fundamental over-capacity and over expansion issues. The Fair Skies campaign, however hypocritical the US Big Three's lobbying appears, has thrown light on the financials of Etihad and Qatar. Qatar has more than enough hydrocarbon wealth to continue its global hub operation despite the embargo, and to accelerate its investment strategy — a much better quality version of Etihad's, focusing on oneworld, taking stakes in IAG, Lan Chile and Cathay Pacific, and attempting to buy into American.

EMIRATES vs ETIHAD : LAST FIVE YEARS

US $bn	Emirates	Etihad
Turnover	110.5	25.6
EBIT	6.5	-1.1
Margin	5.9%	-4.4%
Operating Cashflow	17.2	-2.5
Net Capex	9.4	5.3
Free Cashflow	7.8	-7.7
Net Debt increase	5.5	8.5
Shareholder investment	0.0	9.3
Dividend payments	-6.4	0.0

Notes: Emirates five financial years ending March 2017. Etihad five financial years ending Dec 2015.
Source: Company reports

Having increased seat capacity at an average of about 15% pa for the past ten years, 2017's growth rate will turn out to be around zero. Even if some form of normality is quickly restored, future growth of likely to be in the 4-6% pa range, which causes a problem as the fleet plans to the early 2020s are based on growth rates of over 10% pa.

The manufacturers will have to take part of the pain through deferrals and maybe cancellations (as *Aviation Strategy* pointed out in November, Emirates' reluctance to firm up an additional order puts the whole A380 project at risk of termination).

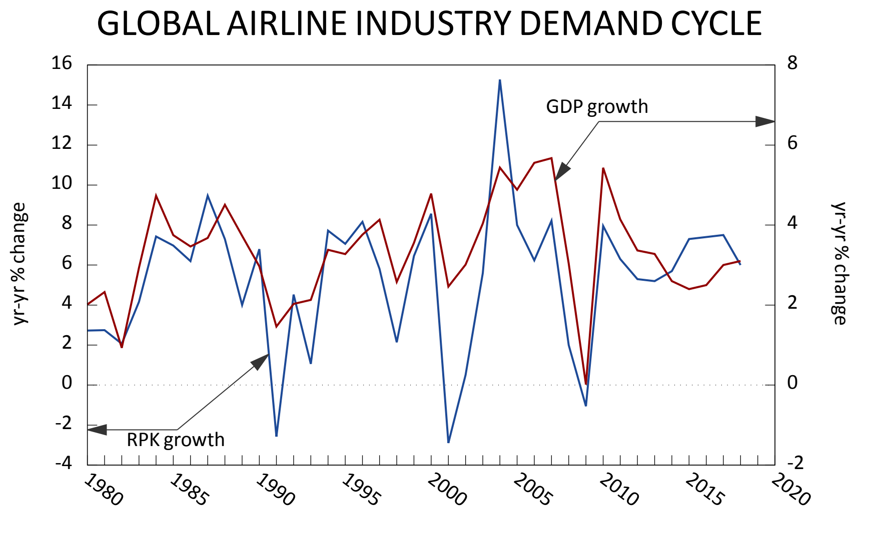
With the management associated with the equity alliance strategy now gone, is there a possibility of an Emirates/Etihad merger? Ultimately it will be a political decision, or a royal one, but it is interesting to have an objective picture of the financials of the two carriers. Emirates is totally commercial with positive cashflow and profits distributed to its state shareholder, Dubai, via dividends. Etihad has been losing money at the operating level, has negative cashflow, and has had to rely on injections of state funds from Abu Dhabi to cover capex.

Asia/Pacific

Asia/Pacific is a complex network of different markets, but a common theme is the how competition between the flag-carriers and the new wave of LCCs is playing out

The flag-carriers — Air India, MAS, Garuda, Thai, PAL, Vietnam Airlines — are diverse, with hugely different economic power, yet they are all tied to their national governments. Despite some high-profile conflicts with their state owners, there appears to be little chance of any of them disappearing in the short/medium term, as happened with the smaller European flag-carriers. Indeed, SIA remains the model for these carriers, associating efficiency and service with state ownership/control (via Temasek in SIA's case)

Their financial performance has generally been uncommercial — negative numbers at the EBIT level for at least the past five years (though some



Source: IATA

is a possibility.

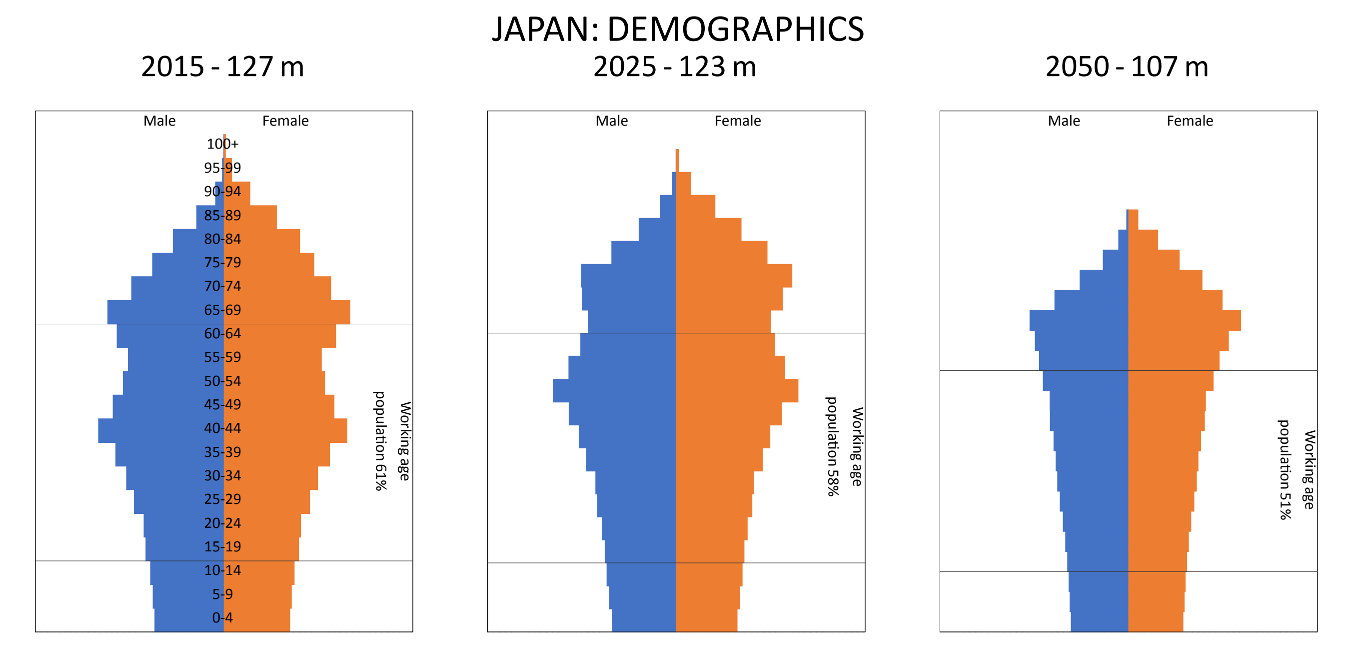
Asian LCCs too are diverse — Indigo, SpiceJet, Air Asia, Cebu Pacific, Lion Air, Vietjet, etc — with intense competition among them via transnational affiliates. They have adopted many of the operating efficiencies of the best European and US LCCs to the Asian market, yet there are some differences — multi-type fleets, for instance. Also, there is a high degree of financial opacity — Lion Air and Cebu do not reveal financial detail. To what extent have their mega-orders been placed with a fixation on achieving the lowest possible unit cost?

upticks recently), and they are unable to compete on cost with the new wave of LCCs; their short/medium haul networks are in direct competition.

The European solution of cross-border mergers with networks focused on feeding global hubs (Air France/KLM model) does not exist, and their long-haul operations are not readily defensible against the superconnectors or the expansionist Chinese carriers; they are in reality niche operators in the long-haul sector.

The economic solution might be take-overs by the new LCCs, but this is still politically unpalatable. Transferring operations to a lower cost associate — the Qantas/Jetstar model —

Finally, observing Japanese travel trends over the coming years will be intriguing. It is the first developed country to have a population in marked decline. What will be the impact on JAL, ANA and their subsidiaries? Will air travel to/from the country come to be dominated by Chinese tourists carried on Chinese airlines?



Source: UN DESA

What is Virgin Atlantic's Delta?

DOES THE Virgin Group's sale of a 31% stake in Virgin Atlantic earlier this year signify nothing more than Richard Branson's latest retreat from his once-held vision of a global Virgin airline empire — or was it brilliant timing?

In calendar 2016, Virgin Atlantic (which also includes tour operator Virgin Holidays) saw revenue fall by 3.3% to £2,7bn, thanks entirely to a 4.8% reduction in revenue from airline traffic and cargo operations, to £2,2bn. This was on the back of a 2.5% year-on-year decline in seat capacity (in ASK terms), stable passenger demand (down by only 0.1% in RPK terms) and a near two point improvement in load factors to 78.7%.

Underlying operating profits nevertheless improved by 75% to £39.8m from £22.5m a year before (albeit a paltry 1.5% margin) as unit revenues fell by 1% year on year, slightly lower than the 1.1% fall in unit costs (despite a 17% reduction in fuel costs). The company stated that the devaluation of Sterling against the US Dollar following the British referendum vote to leave the EU also impacted the business by more than £50m.

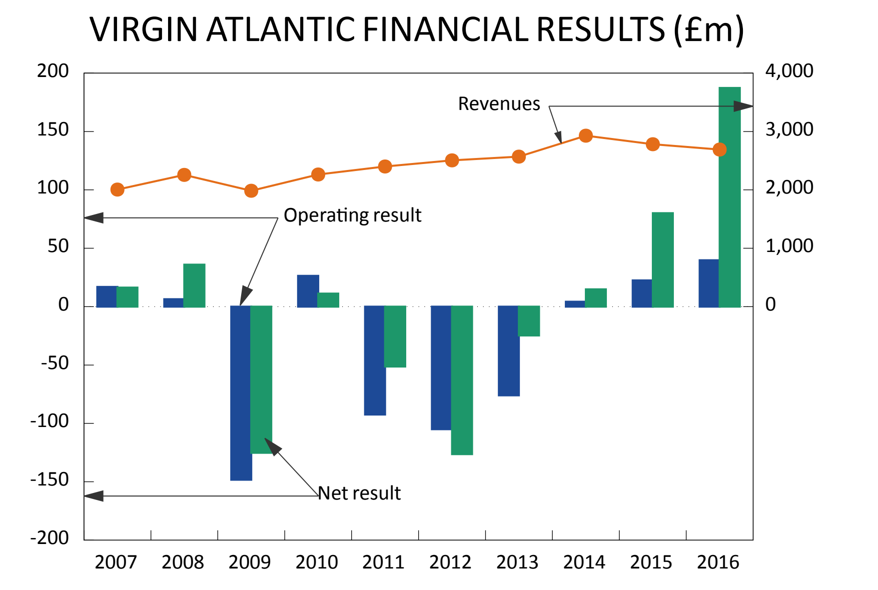
The group does not implement hedge accounting policies. As a result its fuel and currency hedges are treated as derivative trading (as if it were a commodity broking business) and are marked to market at period end and passed through the profit and loss account. Between 2015 and 2016 there was a huge swing in the fair valuations of derivative contracts. In 2015 the airline took a £139.7m hit from these contracts, but in 2016 it benefitted to the tune of a £74.7m gain on derivatives. That's a £214.4m net swing year-on-year. Officially, operating profits in the period fell from £178m to £153m and published statutory net profits jumped from £87.5m tp £232m.

In 2016 cargo revenue fell 15.9% — again thanks to overcapacity in the market — and cargo yield fell by 17.2%. But one bit of good news in 2016 was Virgin Holidays, which has changed its distribution to 100% direct sales. Last year it sold 341,000 holidays (to punters who travelled to more than 45 destinations) and the unit more than doubled its profit before tax and exceptional items, to £19.1m.

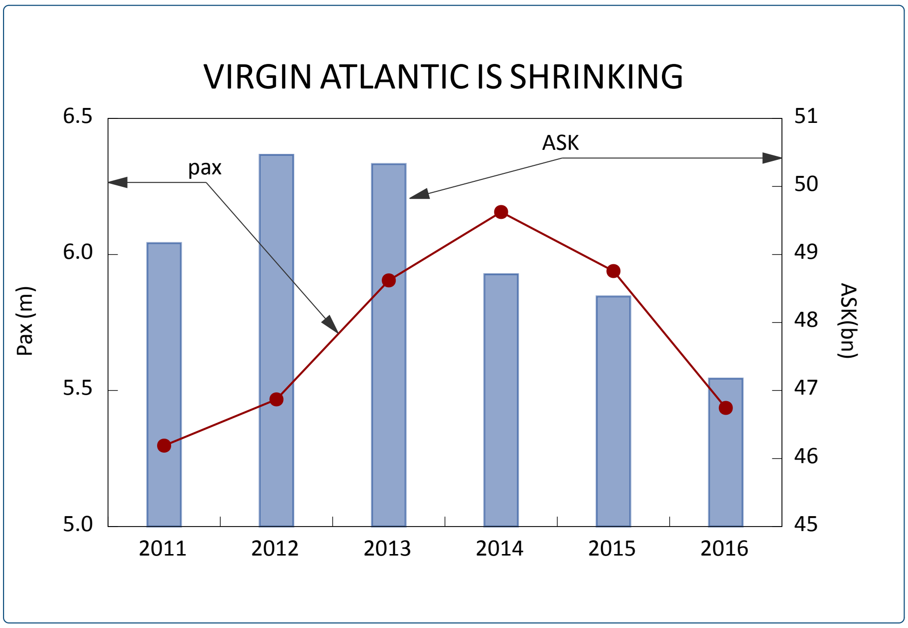
Comparisons of Virgin Atlantic's accounts between years are problematic. This is partly because it is a private company (with relatively little detail given until very recently). In 2013 it changed its financial year end to December from February (influence from Delta?). Also, until 2015 the airline prepared its financial results under the UK's GAAP accounting rules (which it could legitimately do as it is not a listed company), rather than under the international financial reporting standards (IFRS).

Nevertheless, Virgin Atlantic posted its third consecutive year of profit in 2016 under IFRs standards (after Virgin restated its 2014 results under that standard for the first time). In the ten years to end 2013 the group appears to have lost £295m at the operating level on revenues of £21.7bn — a negative margin of -1.3%.

Looking more closely at the figures, however, uncovers some worrying trends. Passengers carried in 2016



Note: YE Dec. Prior to 2013 data show for year ended Feb of following year.



fell by a stunning 0.5m to 5.44m (see chart above), though overall load factor rose by 1.9% to 78.7% as capacity was cut back (ASKs fell 2.5% year-on-year). However, passenger yields fell by 3.4% and unit revenues by 1% in 2016 (see chart below) due to "a combination of lower fuel prices being passed on to customers and supply/demand imbalance leading to market fare reductions".

The net profit after exceptional items of £187m in 2016 allowed the group to post a positive equity position of £23m at the end of the year up from a negative £(164)m a year before (albeit including intangible assets — a capitalisation of its route network — of £164m).

The majority of the fleet is under operating leases (with only three 747s and two 787s owned), and the group had a net cash position on balance sheet of £90m at the end of Dec 2016 (down from £198m in the prior year), with long-term debt rising by £99.3m in a year, to £462.8m as at the end of 2016.

At the end of 2015 Virgin successfully issued a highly innovative £220m bond secured on its Heathrow slots — it is the third largest operator at the constrained London airport behind BA and Aer Lingus with 3% of the total.

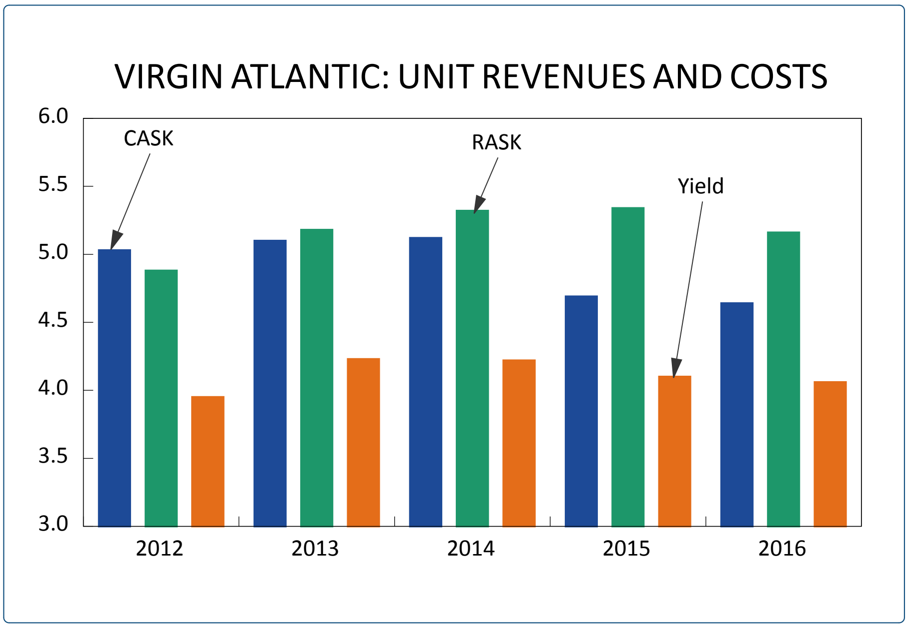
As at the end of 2016 Virgin Atlantic's cash liquidity stood at £551.2m (20% of revenues) — barely changed from £561.2m as of 12 months earlier. Net debt including capitalised leases (using a 12% cap rate) grew from £1.5bn to more than £1.6bn as at the end of 2016 — a debt/equity ratio of 7,000%.

Plan to Win

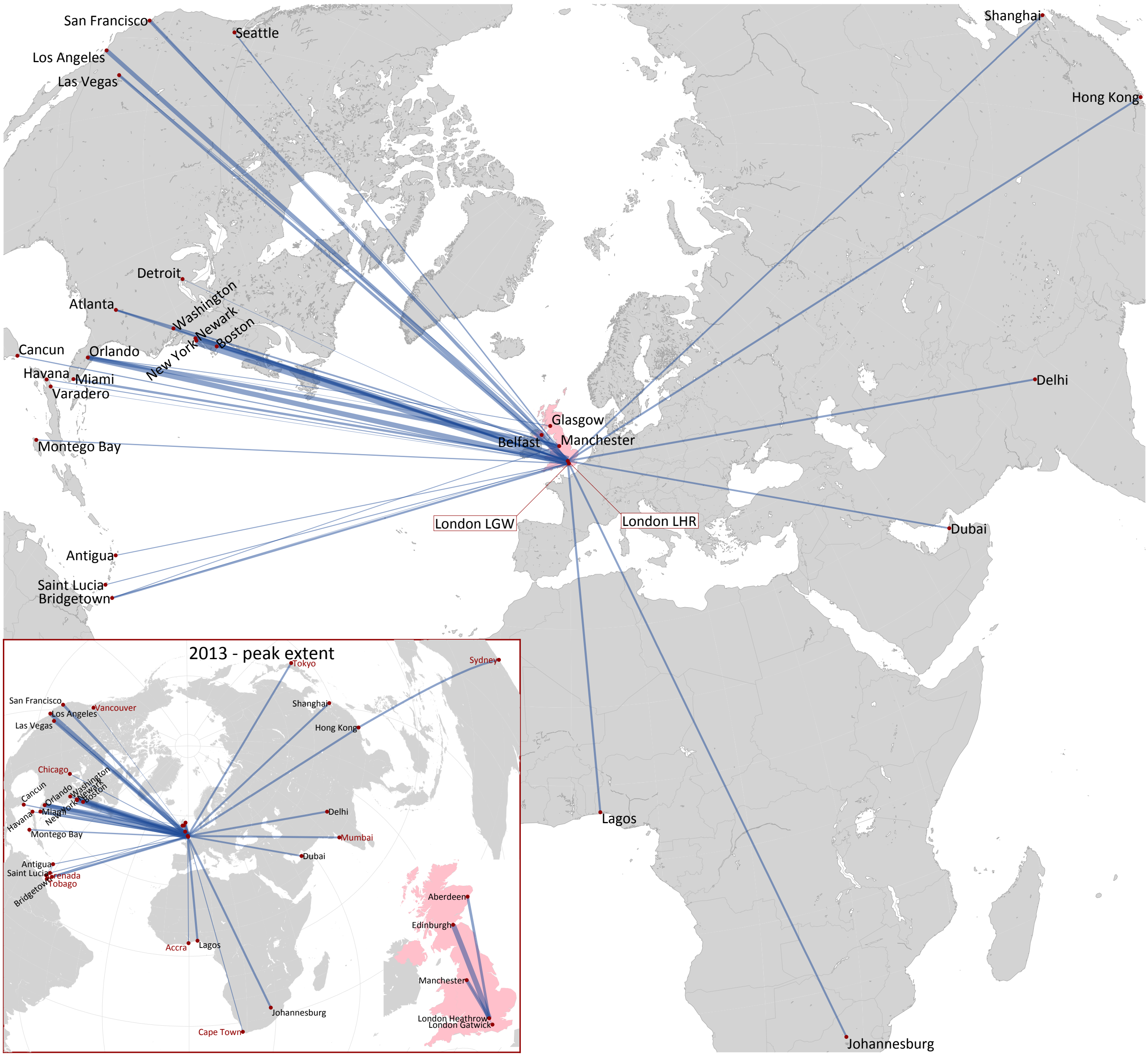
Virgin Atlantic has been trying to change. 2017 is the third year of a four-year business plan called Plan to Win, which "will deliver long-term success" according to Craig Kreeger, the CEO of Virgin Atlantic. Among its objectives are a "relentless focus on costs" that has saved £60m and with an expected another £50m of savings in 2017 — and revenue improvements. Earlier this year Kreeger admitted Virgin Atlantic was facing "increased capacity from low-fare, long-haul competitors… we are focussing on remaining true to who we are — a full service carrier".

Virgin Atlantic currently operates to 30 non-stop destinations, comprising eleven in the US, eight in the Caribbean and Mexico, six elsewhere in the world (Delhi, Hong Kong, Shanghai, Dubai, Johannesburg and Lagos), and five UK airports.

All 11 US destinations in Virgin Atlantic's network are served out of one or other of its two London hubs, but seven of these destinations compete against Norwegian Air routes out of London Gatwick — to Las Vegas, Los



VIRGIN ATLANTIC ROUTE NETWORK



Angeles, San Francisco (Oakland for Norwegian), Seattle, Boston, Newark and JFK. And seven London Virgin Atlantic routes also compete against Wow Air out of London Gatwick, via Reykjavik, to Boston, Newark, JFK, Miami, Washington, Los Angeles and San Francisco.

Around 70% of all Virgin Atlantic's revenue comes from its transatlantic routes (and 72% is sourced in the UK), and rising LCC competition shows why it was so important for Virgin Atlantic to tie itself closer to Delta Air Lines. It derives substantial benefit from its joint venture with Delta on transatlantic routes (2016 was the third full year of partnership, following Delta's purchase of Singapore Airlines' 49% stake in Virgin Atlantic for £224m in June 2013). Delta co-located all its London flights with Virgin Atlantic at Heathrow Terminal 3 in 2016, and the partnership offers more than 220 connecting destinations across more than 630 routes, with 39 peak flights from the UK to the UK every day on the JV (and with 1,500+ passengers connecting between the two airlines daily). Outside of London though, there's less traction between Delta and Virgin Atlantic, as the latter's routes out of Glasgow and Belfast are seasonal leisure destinations, while Manchester is split between leisure and business routes.

Since Delta's investment it is apparent that Virgin has become more financially oriented towards profitability (Delta officially cannot be seen to control, but its representatives can no doubt provide advice). The company went through a full review of all its routes and discovered, perhaps unsurprisingly, that those to the West (US and Caribbean) and to restricted destinations such as Lagos and maybe Hong Kong were the ones that made money.

The airline's network reached its peak extent in 2013 (see map on the preceding page), since when Virgin has cut routes to Tokyo, Sydney, Mumbai, Accra and Cape Town. It has also withdrawn from Chicago and Vancouver, more closely aligning with Delta's hubs with routes to Atlanta, Seattle and Detroit.

While the joint venture with Delta essentially saved Virgin Atlantic and enabled it to return to profit in 2014, earlier this year the airline said it was likely to fall to a loss yet again this year, thanks to a combination of Sterling weakness and tough market conditions. Virgin Atlantic's previously stated ambition to beat its previous best-ever profit (£99m in 1999) by 2018 has quietly been forgotten, and the prospects for a global full-service airline that is (and always was) sub-scale are not exactly robust.

Fleet changes

The airline continues with a complete fleet replacement programme (which runs from 2011 to 2021). In 2016 Virgin Atlantic received four 787-9s (the first arrived in October 2014) and placed an order for 12 A350-1000s (with a list price of $4.4bn), which will start arriving from 2019 and will be all delivered by the end of 2021.

The fleet now stands at 40 aircraft (with an average age of more than eight years), and comprising 10 A330-300s, eight A340-600s, eight 747-400s and 14 787-9s. The formal outstanding order book with the manufacturers includes three remaining 787-9s (due for delivery by the end of 2018) plus six A380s and the eight A350s (the other four are coming via lessors). It is gradually increasing the number of owned aircraft towards a target of 50% of the total fleet, which it says "will lead to lower ownership costs", according to CFO Tom Mackay.

VIRGIN ATLANTIC FLEET

	In Service	Order	Options	Total
747	8			**8**
787	14	3	7	**24**
A330	8			**8**
A340	7			**7**
A350		12		**12**
A380		6		**6**
Total	**37**	**21**	**7**	**65**

The A380s were ordered more than a decade ago and keep getting deferred — and although the airline insists that delivery remains a feasible option, it's becoming increasingly unlikely they will ever be delivered.

The new 787-9s are being deployed on Virgin Atlantic's longest routes, while the A350s will replace the elderly 747s (which have an average age of more than 18 years) and A340-600s (with an average age of 11.5 years). The airline is also due to receive four former Air Berlin-owned A330-200s in early 2018, which will provide temporary capacity for the expanding Manchester hub (reportedly on initial 12-month contracts).

Codesharing with Flybe was launched in 2016, and this has helped Virgin Atlantic turn Manchester into a hub operation during 2017 (joining the existing hubs at Heathrow and Gatwick), with new routes from there (in partnership with Delta) launched to San Francisco and Boston, as well as extra capacity to New York JFK. Other new services this year included Heathrow to Seattle (part of the Delta JV), launched in March, Gatwick-Varadero (launched in April) and Heathrow to Barbados (December).

Meanwhile in December it announced a new code-share agreement with Virgin Australia (with whom Delta has an immunised JV on the Pacific), with connections through both Hong Kong and Los Angeles.

Strategically, however, it could be argued that Virgin Atlantic has little room to manoeuvre as it faces fierce pressure on fares from LCCs and others. A recent tactic of encouraging inbound markets to the UK (thanks to the plunging Sterling) through more sales effort in Asian markets smacks of desperation, and will hardly move the dial. Certainly the airline has no choice other than to continue as a full-service carrier — it continues to focus on its premium products, while in September this year it became the first European airline to offer wi-fi (on a paid-for basis) across its entire fleet globally, via a contract with service providers Panasonic and Gogo.

Virgin Atlantic continues to

shrink, and capacity has been eased back again in 2017 to offset what the airline calls "demand challenges".

Fading into the memory already is the airline's ill-fated attempt at a UK feeder carrier — Virgin Atlantic Little Red. This was launched in 2012 with four A320s wet leased from Aer Lingus and using former BMI slots at Heathrow that had to be given by following BA's acquisition of its smaller rival — but was folded in 2015 after poor load factors.

Though trying its hardest, Virgin Atlantic has essentially failed in its goal of becoming a true rival to a strong home carrier — British Airways. It has the advantage that London Heathrow provides — the strongest natural long haul O&D demand, and the prime gateway to Europe. But Virgin's long-haul network is significantly sub-scale compared with BA, has little feed, and while the Virgin brand undoubtedly is highly valuable, on its own this clearly isn't enough to make an airline successful. The long-haul routes it cherry-picked as being ripe for taking business away from BA are now being cherry-picked themselves by long-haul LCCs, and Virgin Atlantic will only survive long-term by being part of a broader, stronger airline alliance — with much deeper pockets.

Branson's dream

Branson has won his bet with BA's Willie Walsh made in 2012 over whether the Virgin Atlantic brand would still be around five years from then (the precise anniversary has just passed, which will no doubt result in a comical interpretation of the bet, where the winner gets to kick the loser in the groin).

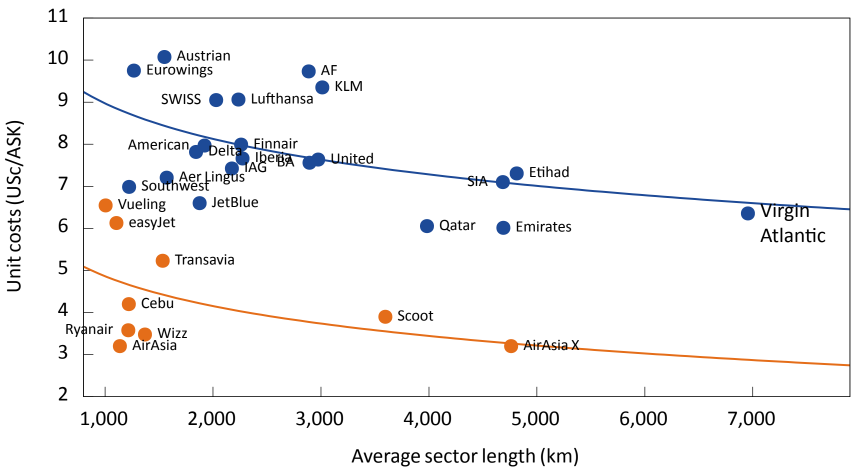
Yet in June 2017 Richard Branson's Virgin Group agreed a deal to sell 31% out of its existing 51% stake in Virgin Atlantic to Air France-KLM for £220m (funded by Delta and China Eastern each taking a 10% stake in Air France-KLM). The aim is no doubt to merge the Delta/Virgin joint venture with the long-standing Delta/Air France-KLM atlantic JV. Meanwhile, Air France-KLM's partnership with Jet Airways (currently code share, but possibly to be deepened into a full metal neutral JV) allows a link between the Indian subcontinent and the Skyteam atlantic JV through London — and has allowed Virgin to re-open marketing of the Mumbai route as a code share on Jet.

While Branson made noises about Virgin Atlantic being a tighter part of the burgeoning Skyteam partnership, Virgin Atlantic is but a peripheral part of this broader aviation powerhouse. In one sense (and maybe a bit harshly) the reduction of the Virgin Group's stake can be seen as almost the final nail in Branson's once-held ambition to build up a network of Virgin-branded airlines around the world — see *Aviation Strategy,* August 2009.

Virgin America was acquired by the Alaska Air Group in 2016, with the Virgin brand due to be phased out by 2019, while the Virgin Group now only has an 8% stake in Virgin Australia (formerly Virgin Blue). Elsewhere Lagos-based Virgin Nigeria was always sub-scale and lossmaking, and the Virgin Group escaped its investment back in 2010. Branson's dreams of Virgin airlines everywhere from India to Brazil to Russia remained nothing more than that — dreams.

Given the offshore and/or private nature of the Virgin Group and many of its businesses, maybe the story will never be truly told of how funds flowed between the various Virgin airlines and the rest of the Virgin empire, particularly as historically Branson funded some of his businesses with cash generated from other of his businesses. Though still chairman of Virgin Atlantic (which he founded back in 1984), Branson's global aviation dream has long faded, and it's inevitable that one day (maybe soon?) the Virgin brand will disappear for ever from the aviation world. When it does, the innovation and excitement that Branson brought to the staid UK aviation scene at the time should at least be remembered.

UNIT COSTS AND STAGE LENGTHS



Argentina: La Revolución de los Aviones

The Argentine aviation market is poised for a disruption and massive growth in the next couple of years as numerous airlines, including at least two high-profile LCC entrants, prepare to launch or expand service in 2018.

Airlines are taking advantage of an unprecedented opportunity resulting from Argentina's economic recovery and new market-friendly policies introduced by President Mauricio Macri since he took office in December 2015.

In the aviation sector, the Macri administration is eliminating subsidies to state-owned Aerolíneas Argentinas, allowing competition on both domestic and international routes, relaxing controls on domestic fares and investing in aviation infrastructure. At an ALTA conference in November, Argentina's transport minister Guillermo Dietrich said that the government saw the aviation sector as one of the engines to eradicate poverty because it "connects our country and generates opportunities".

Currently Argentina's domestic market is dominated by Aerolíneas and its sister company Austral, which account for 72% of the total flights, with LATAM Argentina having a 15% share (November 2017 figures). On the international side, Aerolíneas and LATAM are pretty much the only Argentine operators.

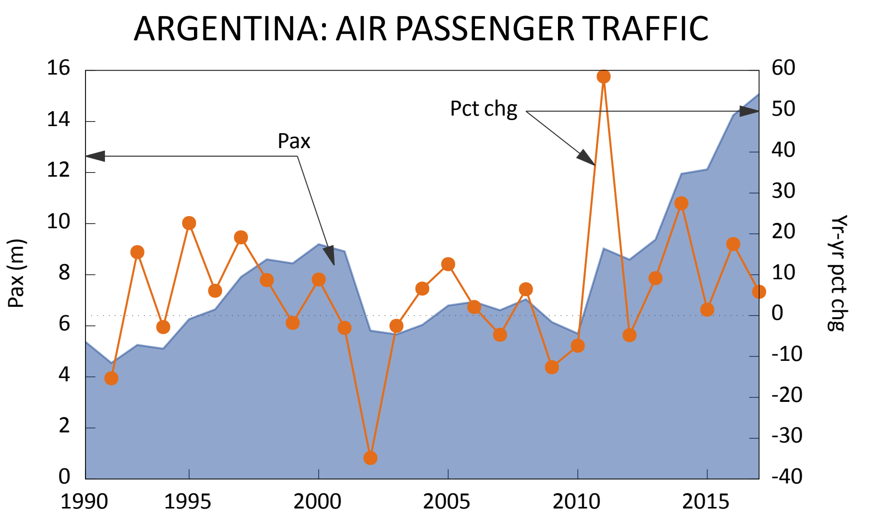
But the past policies of prioritising Aerolíneas and local bus companies, which Dietrich described as "errors made by our country", have given way to promoting competition in the aviation sector.

The past year's massive route awards are indicative of the new thinking. Argentina's CAA held public hearings in December 2016 and September 2017, in which airlines requested new routes to operate scheduled services. Subsequently the Air Transport Advisory Board (JATA) recommended the granting of 635-plus new scheduled domestic or international routes to 11 existing or planned airlines. Aerolíneas, Austral and LATAM Argentina were excluded from those proceedings.

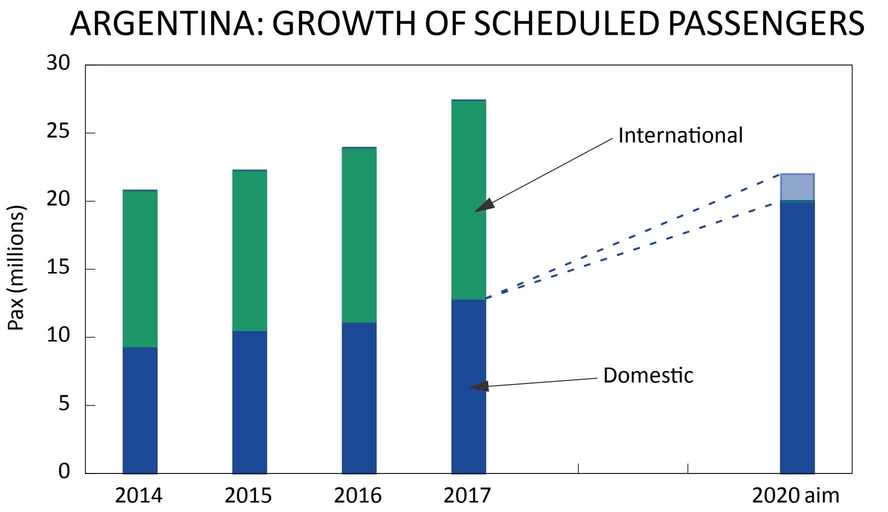
The tentative route awards, which were conditional on the final approval of the Ministry of Transportation, were given for 15-year periods. They are subject to airport capacity and facilities being available and, in the case of international routes, bilateral agreements allowing additional services and operators. But the government is obviously keen to negotiate new and expand existing bilaterals.

The five airlines that presented in the first hearing (Flybondi, Andes Lineas Aéreas, American Jet, Alas del Sur and Avianca Argentina) had all secured final approvals from the Ministry by the end of June 2017. Some from the September hearing may still be awaiting final authorisation; that group included Just Flight, Buenos Aires International Airlines, Grupo Lasa, Norwegian Air Argentina, Polar Lineas Aéreas and Servicios Aéreos Patagónicos (SAPSA) — plus Avianca Argentina, which came back to request more routes.

Of the 11 airlines, so far only two — Andes and Avianca Argentina — have begun operating the awarded routes. But there could be a scramble in 2018 because in mid-December the government published a decree



Note: Scheduled domestic and international passengers carried by Argentina-registered carriers.
Source: World Bank/ICAO



Notes: 2017 estimate based on January-November figures. November 2017 figures are preliminary. Source: EANA (Navegación Aérea Argentina)

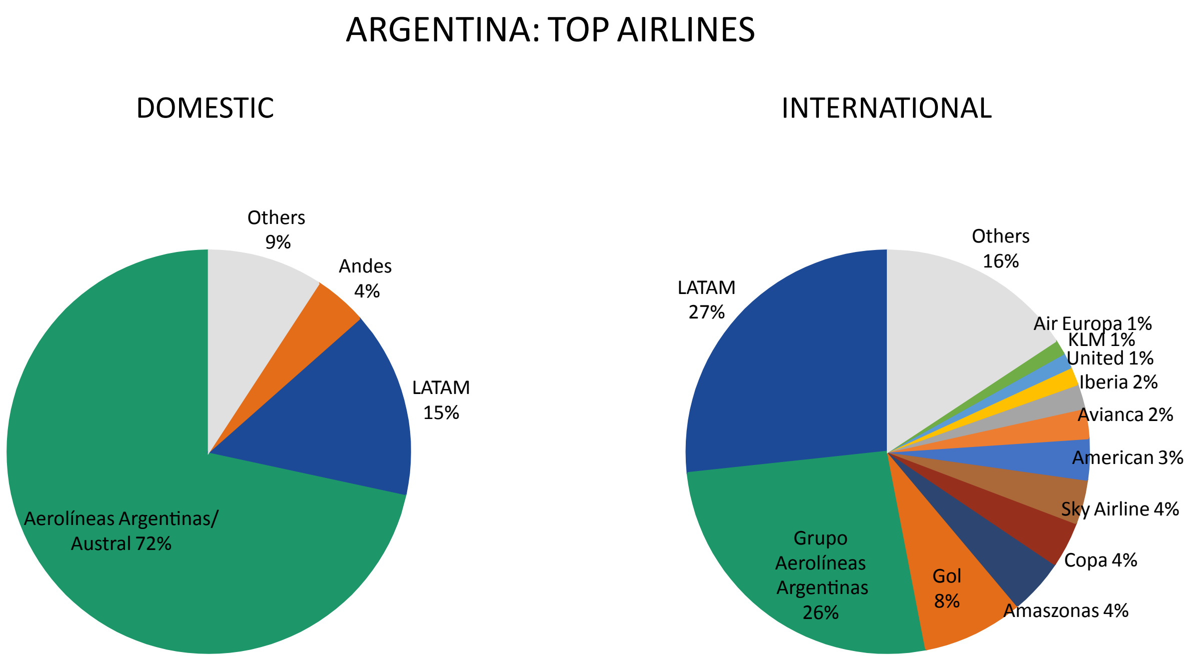
requiring all new entrants to obtain AOCs and other necessary certificates within 12 months of receiving their route awards.

Some of the proposed airlines in very early planning stages or with questionable business plans may not be able to raise the funding, round up the aircraft or complete other necessary steps to secure AOCs in time. Others may not meet (possible) deadlines for launching flights after obtaining AOCs.

Those that make it to the air will find that Argentina poses more than the usual amount of challenges and risks for new airline entrants. Will the government abolish the minimum domestic fare requirements so that new entrants like Flybondi can offer ULCC-type fares? Will a market-friendly, pro-aviation government remain in power? Will there be sufficient infrastructure to handle all the growth? Could Argentina's powerful labour unions block the path for LCCs?

There is tremendous interest in getting into the Argentine aviation market because of its enormous potential. Argentina is one of the biggest untapped domestic airline markets in the world. Flybondi investor Michael Cawley (ex-Ryanair COO) recently described it as an "incredible opportunity", one that is "much better than Ryanair ever encountered in Europe". Flybondi believes that total passengers in Argentina (domestic and international) could quadruple to 80m in ten years.

Argentina's potential has also captured much interest from foreign



Note: Number of flights November 2017
Source: EANA (Empresa Argentina de Navegación Aérea)

operators, and the government is being equally generous with route awards on that front.

Among the numerous foreign airlines that have grown their operations to Argentina, 2017's most noteworthy new entrants were IAG's long-haul low-cost unit Level and Brazil's Azul. Level added Barcelona-Ezeiza flights with A330-200s, while Azul introduced Belo Horizonte-Buenos Aires flights with E195s and A320neos.

This year's highlight will be the start of Norwegian Air Shuttle's flights to Argentina from Europe, representing the European LCC's entry to the South Atlantic. NAS is inaugurating four-per-week London Gatwick-Buenos Aires services in mid-February, ahead of the Argentine subsidiary's launch in the summer.

Notably, many of the new services added by airlines from other South American countries are to secondary cities in Argentina, such as Córdoba, Bariloche, Mendoza, Rosario, Neuquén, San Juan, Tucuman and Salta. The Argentine government is keen to improve air connectivity from the interior of the country.

Flood of new entrants

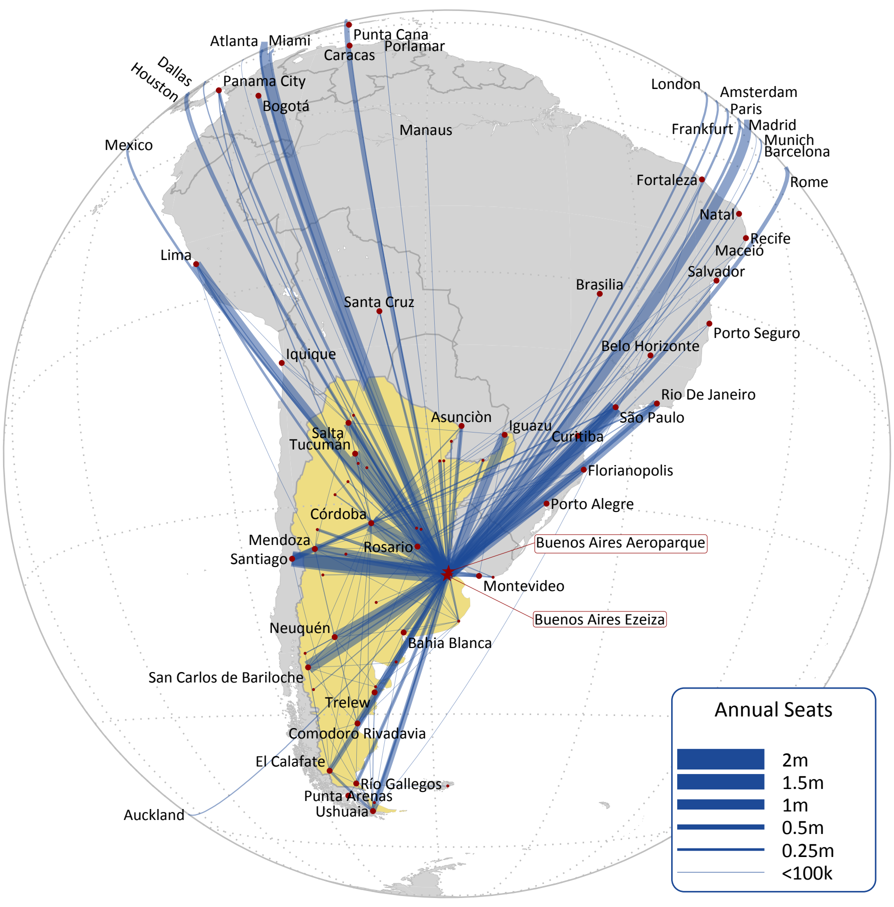
The 11 companies vying for position in the Argentine scheduled passenger market fall into four broad types. First, there are the LCC heavyweights — **Flybondi** and **Norwegian Air Argentina** — that have global investors, strong funding and solid business plans. Those two airlines' low fares and planned scale of operations could have enormous impact in terms of stimulating air travel in Argentina and capturing market share from Aerolíneas.

Flybondi, Argentina's first ULCC, expects to begin operations in January, having received its first leased 737-800 in early December. It will start with two or three domestic routes from its Córdoba base and will use its second aircraft to launch flights from Buenos Aires El Palomar later in the first quarter. The goal is to serve the 85 routes that it has been licenced for (43 domestic and 42 international intra-Latin America) by 2021, utilising a fleet of 28 aircraft.

Flybondi has shelved plans to order the 737 MAX 200 at this stage, instead deciding to grow the fleet to 10 or so leased 737s by the end of 2018. The company has prominent local and international investors (for the background, see *Aviation Strategy* October 2016). This year's highlights included completing a new $75m financing round, led by the US private equity firm Cartesian Capital Group. Flybondi could over time really disrupt the market with ULCC-type fares.

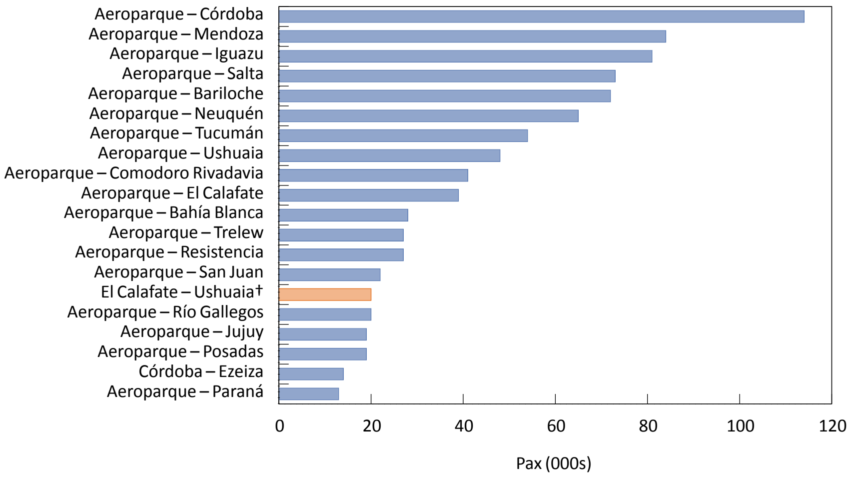
Norwegian Air Argentina (NAA) is looking to launch low-cost domestic flights by June 2018. The airline received final authorisation in early December to operate 152 domestic and international routes. Its first 737-800 is due to begin the certification process in January, and the airline sees operating 10-16 aircraft in its initial year and eventually growing the fleet to 70 aircraft (737-800s and 787-9s). A321LRs and 737 MAXs are also a possibility, since all of NAA's aircraft will

ARGENTINA: AIR CAPACITY FLOWS



Source: Schedules data 2017

ARGENTINA'S TOP 20 DOMESTIC ROUTES



Note: † Currently only one route among the top 20 that bypass Buenos Aires.
Source: EANA (Empresa Argentina de Navegación Aérea)

come from parent company Norwegian Air Shuttle's existing orderbook.

With plans to operate four major hubs in Argentina, fly all around the world from each of those hubs and serve many destinations in the US, NAA is potentially a serious disruptor in Argentina.

Second, there are the established Argentine executive jet and/or charter operators that are now moving to start scheduled service and operate larger aircraft. While not disruptors, they will make a contribution in terms of improving connectivity and growing the market. They benefit from knowing the Argentine market, having facilities in place, etc.

The most prominent airline in that category is Synergy Group's **Avianca Argentina**, which previously operated executive jets as Macair Jet. The rebranded carrier launched operations in late November 2017 and has ambitious plans to grow in the domestic and intra-Latin America international markets with ATR 72-600s and later also A320s.

Another example is **Andes**, an established Salta-based charter airline that already operated MD-83s. Andes began adding scheduled service last summer after receiving route awards and its first used 737-800 (now at least eight in the fleet).

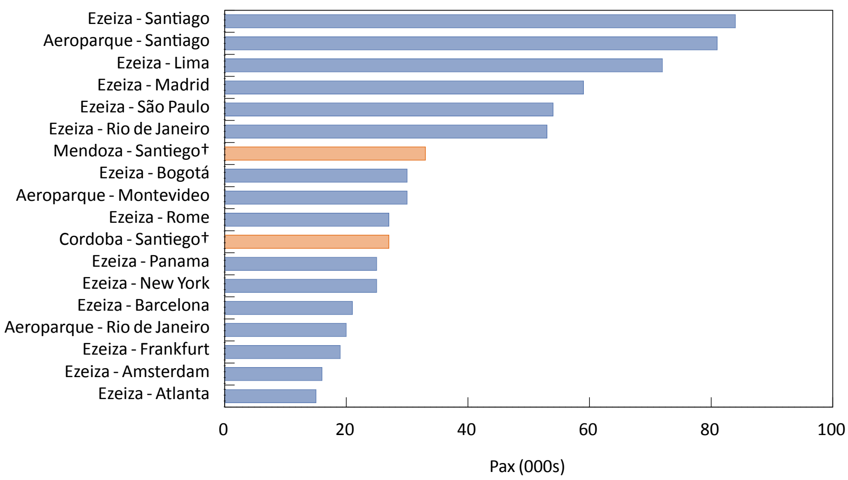
There is **Just Flight**, a 24-year-old Buenos Aires-based air taxi company that now wants to diversify to 20-seat Fairchild C-26 Metro IIIs. The airline has secured ten scheduled routes, including one to Uruguay.

American Jet, an old-established Patagonia-based company that operates charters, corporate flights and medical care flights with a diverse fleet that includes ATR 42-320s, is looking to start scheduled flights but has not yet made its plans public.

SAPSA (Servicios Aéreos Patagónicos), a well-established charter operator, has secured 40 scheduled routes, mostly from Buenos Aires but some also from secondary cities. The plan is to initially deploy CRJ200s domestically. The route awards also include Ft. Lauderdale, Orlando, Lisbon, Paris and Frankfurt, to be served at a later stage. SAPSA may be a serious contender because it is part of (and funded by) the Via Bariloche tourist group, which also provides ground transport. The plan is to achieve integrated air-ground operations.

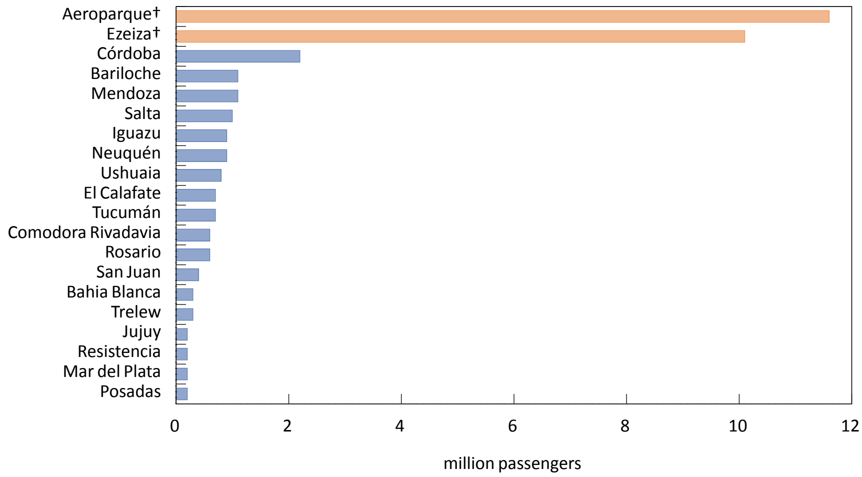
Third, there is at least one proposal for a promising new niche carrier. **LASA Lineas Aéreas** is looking to operate five scheduled routes in the Patagonia region utilising ERJ145LRs, with hubs at Neuquén and Comodoro Rivadavia. The "purely touristy"

ARGENTINA: TOP 20 INTERNATIONAL ROUTES



Note: † Currently only two routes among the top 20 that bypass Buenos Aires.
Source: EANA (Empresa Argentina de Navegación Aérea)

ARGENTINA'S TOP AIRPORTS: PASSENGER TRAFFIC - 2016



Note: † The two main airports serving Buenos Aires
Source: EANA (Empresa Argentina de Navegación Aérea)

routes will include Chilean Patagonia. LASA has already received $10m of its planned $73m total funding from Argentine investors. It had a website running in mid-December but was not yet selling tickets.

Fourth, the public hearings heard presentations from three proposed airlines that have big global ambitions but seem to be at a relatively early stage of development, with little evidence of funding, making it uncertain if they will take off.

Buenos Aires International Airlines has tentatively secured a whopping 178 domestic and international routes, including 15 to North America and 25 to Europe. It also has plans to operate some unusual routes from Buenos Aires, including Singapore via South Africa, Hawaii via Los Angeles, Beijing via London, Tokyo via Auckland and Shanghai via Zurich. The airline wants numerous destinations but would operate very low-frequency, charter-type services at least in the long-haul markets. The main hub would be at Buenos Aires Ezeiza and a secondary hub at Córdoba. Initial fleet for domestic and intra-Latin America operations would consist of 737s.

The September hearing heard little about ownership or funding plans, but former executives from defunct Southern Winds are believed to be involved (an Argentine airline that ceased operations in 2005). The filings suggested that the founders are being advised by and may get finance from Seabury Capital.

Polar Lineas Aéreas is another proposed new entrant with ambitious plans. It has been awarded 44 domestic and 31 international routes for passenger services, plus some cargo routes. It plans to operate domestic services from seven cities in Argentina, initially with E190s and later also with A320-200s. Polar would also operate to Brazil, Bolivia, Chile, Peru and Colombia. In the longer run it would also deploy large aircraft and serve Auckland, Sydney, Madrid and Miami.

Polar is reportedly the brainchild of Ricardo Barbosa, former owner of CATA (an airline that operated in 1986-2006). Some reports in October talked of a December start, but the company does not yet even have a website running.

Alas del Sur, which presented in the December 2016 hearing and secured route awards in March 2017, plans a Córdoba base and a secondary hub at Ezeiza, from which it will operate domestic and intra-Latin America international services with A320s. Later it will add long-haul services to Barcelona, Shanghai, Fuzhou and Miami with 777s.

However, Alas del Sur seems to be experiencing delays and its website is looking oddly out of date. The site lists a year-end 2017 fleet of three A320s and three 777s, but in reality the company has not yet received any aircraft.

Pro-aviation policies

In its first two years the Macri administration has accomplished much in opening Argentina to the world after years of protectionism. Market-friendly reforms, currency devaluation and other measures have already attracted substantial foreign investment. Argentina is again selling bonds in the global markets and has raised significant funds from international agencies.

Macri's Cambiemos coalition received a vote of confidence in October's mid-term elections, strengthening its mandate to pursue reforms. As Fitch noted, the structural reform agenda includes "easing the onerous tax burden, improving labour market flexibility, reducing subsidies and deepening shallow capital markets".

After average real GDP growth of negative 0.1% in 2012-2016, including a 2.2% decline in 2016, Fitch expects Argentina's GDP to expand by 2.8% in 2017 and 3.4% in 2018. This could mark the start of a more stable growth pattern. Inflation, while still high, is expected to ease in 2018.

One of Macri's immediate

aviation-related actions was to order the phasing out of state subsidies to Aerolíneas and appoint a new CEO from the private sector (who resigned after less than a year and was replaced by Mario Dell'Acqua, ex-head of the state-run logistics company Intercargo).

Since then Aerolíneas has seen a sharp reduction in subsidies, which are expected to be eliminated altogether by 2020. The airline is trying to improve efficiency through fleet renewal and aircraft upgauging. It has restructured its Aeroparque hub and is pulling out of markets such as Barcelona after Level's entry made the route unprofitable. Aerolíneas plans to counter the LCC entrants' low fares through better fare segmentation.

Macri has also reduced government regulation of air fares. As the first step, controls on maximum domestic air fares were abolished in February 2016. However, minimum prices remain and could hinder the progress of ULCC entrants like Flybondi, which has frequently said that it could offer tickets at half the minimum prices.

Opinion is divided on how soon the minimum prices will be abolished. A year ago it was thought to be imminent, but reports from November's ALTA conference suggested that there might be a further delay. The head of the CAA reportedly commented that he thought the price floors, which had been originally introduced to protect long-haul bus operators, had limited impact on airlines.

Flybondi's CEO Julian Cook has said in the past that in the short term the airline could get around the restrictions, for example, by setting up a members-only club or offering free hotel rooms. So perhaps the government will turn a blind eye to airlines being creative. But realistically, to make the ULCC business model work Flybondi needs the flexibility to offer \$10-type fares in certain time periods and for special promotions.

Importantly, the Argentine government is making progress in improving aviation infrastructure. In September 2016 it announced plans to invest \$1.4bn to upgrade infrastructure at 19 airports and introduce new air navigation technology (the ORSNA 2016-2019 plan). According to a government website, after 15 months work has been completed at nearly half of the airports. The timing of the completion of the remaining projects will to a certain extent determine the order in which airlines launch their planned routes.

Also, Dietrich confirmed in November that the government is building a "completely new low-cost airport" at the El Palomar air force base just 20km from Buenos Aires. Using El Palomar was originally Flybondi's idea and the airline was awarded 56 routes from there, but there has been strong local opposition. According to Flybondi, El Palomar will set up a temporary structure to enable it to start operating from there in the first half of 2018 while talks continue on building a proper terminal.

All of that is part of the government's "La Revolución de los Aviones" plan that aims to double the number of Argentinians that travel by air, generate investment and quality employment and boost tourism and regional economies. The government projects that domestic passengers in Argentina will more than double over four years, from 10.5m in 2015 to 22m in 2019.

The long-term potential is clearly there. Argentina is Latin America's third largest economy, with a population of 44m and a vast territory. Similar to Brazil and Mexico when the LCCs arrived, most people rely on long-haul buses for domestic travel. Argentina has the fewest flights per capita among South American countries.

But challenges remain. While commending the government's efforts, IATA continues to stress that more needs to be done to address infrastructure concerns and that Argentina remains over-regulated and over-taxed, with some of the highest passenger fees in Latin America.

High cost levels in Argentina — by some estimates 50%-plus higher than Brazil's and Chile's — will be another challenge for LCCs. A late 2016 Oxford Economics/IATA study recommended, among other things, that the government takes a look at monopolistic practices, such as ground handling. More than 30 airports are operated by the same concessionaire, Aeropuertos Argentina 2000.

Argentina's labour unions are among the most militant in the world. There have been frequent strikes to protest at Macri's austerity measures and the cost cuts at Aerolíneas. The prospect of LCCs in Argentina has generated mass protests from airline unions.

Interestingly, Indigo Partners' Bill Franke recently cited "clear regulations" as one of the reasons he chose Chile over Argentina for his latest LCC venture (JetSmart). He observed that although Argentina is a "nice market", it is "more complicated than Chile".

By Heini Nuutinen
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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.

FREIGHTER VALUES (US$m)

	New	5 years old	10 years old	20 years old
A300-600RF			22.8	11.5
A330-200F	81.6	64.2		
737-300QC				5.9
737-400SF				5.5
747-400F			35.0	19.5
747-400ERF			38.5	
747-8F	171.4	129.0	103.5	
757-200PF				13.2
767-300F	48.5	40.5	32.4	16.4
777-200F	149.4	113.7	85.3	
MD-11C				5.0
MD-11F				7.3

FREIGHTER LEASE RATES ($000/month)

	New	5 years old	10 years old	20 years old
A300-600RF			196	144
A330F	687	571		
737-300QC				84
737-400SF				93
747-400F			463	294
747-400ERF			497	
747-8F	1,491	1,173	983	
757-200PF				132
767-300F	405	371	324	214
777-200F	1,234	1,026	853	
MD-11C				95
MD-11F				141

AIRCRAFT AND ASSET VALUATIONS

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The Aircraft Value Analysis Company

Boeing and Airbus Orders 2017

BOEING was beating Airbus in the annual PR race for orders in 2017. By the 19th of November it had achieved net sales of 844 aircraft (after allowing for cancellations and conversions) somewhat up from the 668 for the whole of 2016. In contrast, by the end of November the Toulouse-based manufacturer had only achieved net new sales of 388 units (down from 410 a year ago). However, in the last few days of December, a handful of large orders — covering over 700 A320s — were confirmed which could have pushed Airbus's total orders to 1,031 for the full year.

It is remarkably unusual to see 70% of the year's orders booked in the last month of the year: but with John Leahy, Airbus sales chief, leaving in January after 23 years at the helm, it may not be that surprising that he wanted to go out on a high.

The notable order was one from Indigo partners for 430 A320neos — Airbus's largest single aircraft order — announced as an MoU at the Dubai Airshow and to be used among Indigo's family of ULCC airlines: Wizz (Europe), JetSMART (Chile), Frontier (US) and Volaris (Mexico). The discount to the $50bn list price must have been substantial.

DELIVERIES Jan-Nov 2017

Boeing			Airbus		
Type	2017	Rate†	Type	No	Rate†
737	468	42.5	A320	453	41.2
747	12	1.1	A330	55	5.0
767	9	0.8	A350	69	6.3
777	66	6.0	A380	14	1.3
787	125	11.4			
Total	680	61.8		591	53.7

Source: Boeing, Airbus. † per month

BOEING ORDERS 2017

	Customer	737	767	777	787	747	Total
Asia/Pacific	Japan Airlines				4		4
	JIA	10					10
	Okay Airways				5		5
	Singapore Airlines			20	19		39
	Total	**10**		**20**	**28**		**58**
Europe	Aeroflot			6			6
	Monarch Airlines	5					5
	Norwegian	2					2
	Primera Air	8					8
	Ryanair	10					10
	SunExpress Airlines	7					7
	Total	**32**		**6**			**38**
MEAF	Arik Air				2		2
	EL AL Israel Airlines				3		3
	Ethiopian Airlines			4			4
	flydubai	176					176
	Qatar Airways			4			4
	Tassili Airlines	3					3
	Total	**179**		**8**	**5**		**192**
N America	Alaska Airlines	4					4
	FedEx			1			1
	United Airlines			4			4
	WestJet	5			10		15
	Total	**9**		**5**	**10**		**24**
Lessors	AerCap				30		30
	Air Lease Corp	12			2		14
	ALAFCO	20					20
	Aviation Capital Group	24					24
	Avolon	75					75
	BOC Aviation	10			4		14
	CALC	50					50
	CDBF	48			8		56
	SMBC Aviation Capital	3					3
	Total	**242**			**44**		**286**
	Undisclosed customers	288		18	15	4	325
	Private customers	8					8
	Military/defence	23	15			2	36
	Gross Orders	**791**	**15**	**57**	**102**	**6**	**971**
	Cancellations	(106)			(13)	(8)	(127)
	Net Orders	**685**	**15**	**57**	**89**	**(2)**	**844**

Source: Boeing.
Note: as of 19 Nov 2017

AIRBUS ORDERS 2017

	Customer	A320		A330	A350	A380	Total
		ceo	neo				
Asia/Pacific	Aero K	8					8
	airasia	17					17
	Aircalin		2	2			4
	Cathay Pacific		32				32
	Cebu	7					7
	China Southern				20		20
	Peach	4					4
	Total	**36**	**34**	**2**	**20**		**92**
Europe	Air France				3		3
	Hifly X			2			2
	IAG			3			3
	Iberia			1			1
	Pegasus		25				25
	Vueling	3					3
	Wizz Air	10	146				156
	Total	**13**	**171**	**6**	**3**		**193**
S. America	jetSMART		70				70
	VivaAir	15	35				50
	VivaAerobus	3					3
	Volaris		80				80
	Total	**3**	**185**				**203**
MEAF	Ethiopian Airlines				10		10
	Nile Air	(2)	2				
	Yemenia	(4)	4				
	Total	**(6)**	**6**		**10**		**10**
N America	Delta	40	100				140
	Frontier		134				134
	Spirit	2					2
	United				10		10
	Total	**42**	**234**		**10**		**286**
Lessors	Aercap		51				51
	Air Lease Corp	2	12				14
	BOC Aviation	2					2
	CALC	9	52				61
	CDB Leasing		45				45
	GECAS		100				100
	Total	**13**	**260**				**273**
	Undisclosed customers	12	11	4	1		28
	Private customers		1				1
	Gross Orders	**128**	**902**	**12**	**44**		**1,086**
	Cancellations	(18)	(27)	(4)	(4)	(2)	(55)
	Net Orders	**110**	**875**	**8**	**40**	**(2)**	**1,031**

Source: Airbus
Note: as of end Nov 2017 updated for orders announced in December

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