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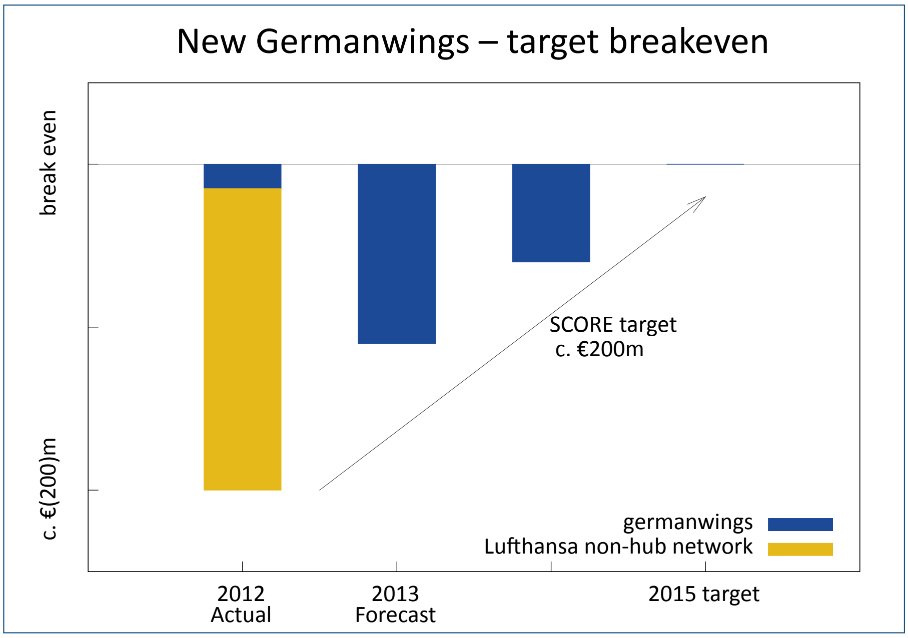
Lufthansa: Germanwings – Reinventing short haul

IN October Lufthansa held another in its series of presentations for investors on the progress of the “Score” programme – the restructuring plan it has in place to restore profitability to reasonable levels (targeting €2.3bn operating profit) by 2015. This time the group put forward the CEO of the airline division (Lufthansa Passenger Airlines) Carsten Spohr (and a possible contender to replace the current group CEO), along with the CEO, Thomas Winkelman, and CFO, Axel Schmidt, of Germanwings: the group’s new saviour for short haul operations.

The concentration was on the plans to transform the Lufthansa short haul operations and made no mention of the other group subsidiaries of SWISS, Austrian or associate Brussels Airlines. Spohr started off by emphasising that Lufthansa Passenger Airlines and Germanwings combined is effectively the largest single European airline with €17.3bn in revenues, 75 million passengers and a fleet of over 400 aircraft. It is also the largest single unit in the Lufthansa Group, accounting for 75% of total passenger revenues and 60% of total group revenues.

This issue includes



Lufthansa is the most exposed of the European three major network carriers to the intra-Europe market – 45% of revenues coming from short haul operations, 27% of revenues from operations to the Americas (with limited operations to South America), 19% to the Asia/Pacific region and a modest 9% into the Middle East and Africa. It also prides itself on having very strong premium revenue and corporate exposure – with 35% of passenger revenues coming from premium traffic and around 40% of revenues generated from corporate contracts.

Recent performance was said to be encouraging. In the first half of the year capacity was basically flat (despite a reduction of 5% in the number of flights) and a modest 1% increase in RPK demand pushed

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Germanwings – simplyfing the non-hub fleet

	2011	2012	2013	2014	2015
No of aircraft	94	94	88	86	87
ASK capacity		+10.9%	+0.8%	+8.4%	±0%
block hours per aircraft		+0.4%	+2.0%	+10.7%	-0.8%
Mainline Fleet					
Lufthansa					
737	25	18	5	–	–
A320	7	16	17	3	–
A319	–	5	4	2	–
Germanwings					
A320	–	–	–	16	21
A319	30	32	39	42	43
	62	71	65	63	64
Regional fleet					
Lufthansa					
CR9	23	23	16	–	–
CR7	4	–	–	–	–
F100	5	–	–	–	–
Germanwings					
CR9	–	–	7	23	23
	32	23	23	23	23

Source: Lufthansa

up load factors by 0.9 percentage points. Unit revenues improved modestly but, importantly, unit costs fell by 1.5% (or 1% excluding fuel) – an unusual achievement in the absence of capacity growth. The first half 2013 operating result improved by 66% to a mere €-91m.

Spohr restated his view that the current trends indicate that the group is on target to achieve its business plan target for 2015. He suggested that the Germanwings development would reduce short haul losses of €200m in 2012 by around €90m in the current year and maybe produce a profit by 2015. He also highlighted that the group had concluded agreements with the ground and cabin crew leading to a near 5% improvement in cabin productivity so far this year, and announced a "process optimisation" programme (something that British Airways initiated over ten years ago) to be launched shortly with the aim of additional savings of €180m a year.

Meanwhile, the company announced a massive order for fleet replacement and re-equipment over the next twelve years. Spohr only mentioned the impact on Lufthansa – whereas the fleet order effectively includes aircraft for the other group carriers. For LH, the group ordered 25 A350s to replace its fuel-hungry A340-300s from 2016, and 34 777-9Xs to replace ageing 747-400s from 2020.

In the medium term the company is planning capacity growth at half the market rate "in selected markets", with a base case of ASK growth of 3% pa. The fleet order however gives it the flexibility to adjust capacity expansion depending on decisions on and timings of aircraft retirements.

Recent regional developments.

Spohr highlighted the regional differences in trading and profitability. On short haul European routes (including domestic) the company was on track to generate the first positive return in more than five years, helped by the transition of non-hub operations to Germanwings. Retrenchment at airBerlin had helped in creating what he called capacity discipline, and improvements in yields were being achieved partly because of the slow-down in capacity expansion by LCCs (European yields in the first half grew by 1.2% year on year against a 3% decline in capacity).

On the Atlantic he averred that the results were very positive. Now that the North Atlantic market has consolidated among three joint venture groups, capacity growth (if any) remains muted with the result that yields have been performing well. However, at the time of the first half results the group announced that its total capacity on the Atlantic grew by 6% and yields by 2%. This capacity growth is hardly muted in itself and may have been influenced by changes in aircraft configuration and reduction in premium cabin space. From the joint venture perspective the actual capacity growth may well be lower than that published by Lufthansa.

The Asian and Middle East/Africa routes in contrast have been under pressure – yields on the Asian routes fell by 7% in the first half of this year (and by nearly 10% in the second quarter) largely driven by currency movements (and a significant hit from the weakness in the Yen). However, the group has some protection on the important Japanese routes through its joint venture with All Nippon. The group is evaluating partnership options in the strongly growing Chinese market. Spohr obviously feels that Air France-KLM has stolen a march on them with its links with China Eastern and China Southern. Tersely he noted that competition from the Middle East super-connectors remains intense (and made no reference to Etihad's ambitions with airBerlin).

SCORE Agenda

Lufthansa's SCORE programme as it applies to the airline revolves around cutting out complexity to reduce unit costs, while at the same time investing in the "best" product and most efficient fleet. Spohr has made it clear that he wants Lufthansa to be Europe's first Skytrax 5-star airline within the next two years.

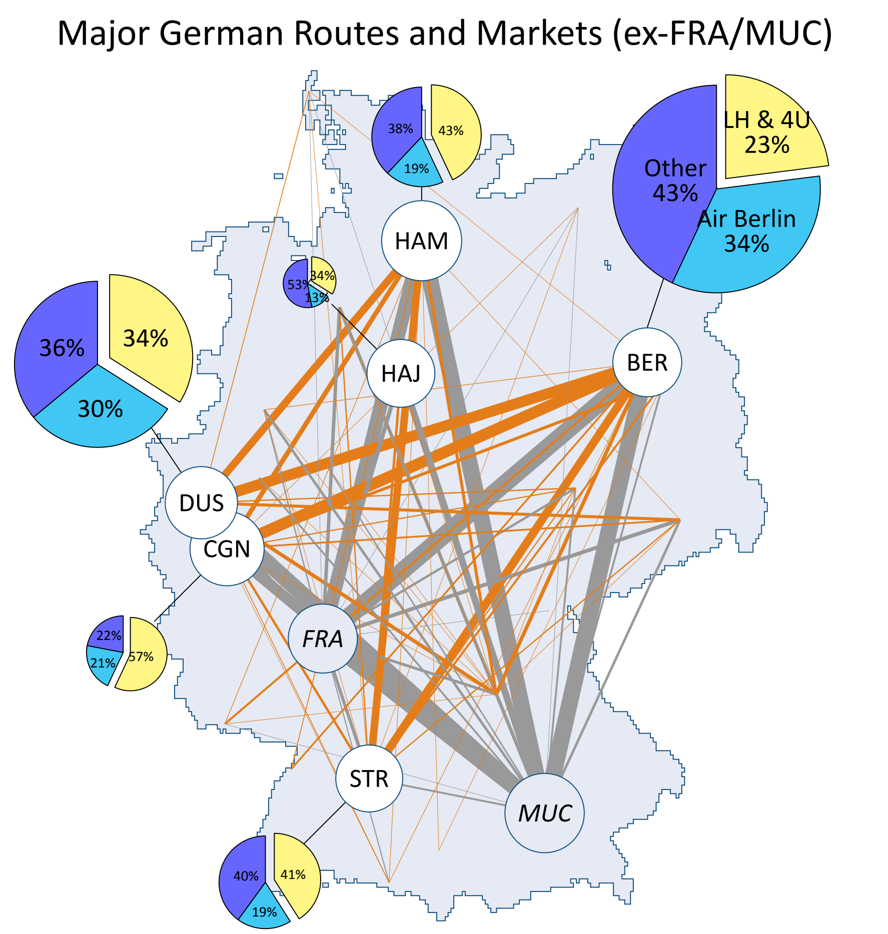
✈ **Capacity & fleet size** : Lufthansa is freezing its fleet size at 400 aircraft until 2016 (some 80 units fewer than it had planned even in 2010). It is aiming to grow at half the market rate over this time with planned capacity increases of around 3% a year, almost all this growth will coming from squeezing more seats onto aircraft. However, in the short run it looks as if total ASK capacity will actually grow by 4%-5% year on year in 2014 and 2015 as the fleet reconfiguration takes place.

✈ **Restructure Long haul:** It is reconfiguring and restructuring the long haul fleet, taking First Class out of a third of the aircraft, and reducing premium class space in the rest, to make room for an enhanced premium economy, with the aim of "optimising" revenue per flight to cost per flight. The new technology aircraft won't enter the fleet until 2016. It will phase out the 747-400 and A340s, replacing them with the 777-9X and A350-900.

✈ **Restructure Short haul:** It is significantly simplifying the fleet structure from nine aircraft types to three – and is phasing out all aircraft below 70 seat capacity. It has already got rid of all the turboprops and will be phasing out the CR7s by 2015. It still has some 737 Classics which should also go by 2015 to leave an all-A320 main line short haul fleet (with A320NEOs coming in from 2016). It will retain its E90/95s and CR9s as hub feeder regional aircraft and on some selected non-hub operations. The new Germanwings operations (see below) are designed to bring the non-hub flying to break-even.

✈ **Reduce unit costs:** the CEO's new project "Shape" is designed to try to turn Lufthansa from a function-oriented to a process-oriented business, in order to reduce unit costs by the use of shared services. Moving to a process orientation should enable the airline to cut out excess duplication of overhead resources – one of the historical burdens of the legacy carrier. When BA made this move some years ago it removed several layers of management without impacting front-line services. It also aims to restructure all outstation operations and reduce costs from all suppliers (including ATC and internal group suppliers). The Shape programme is targeting a reduction in staff costs of some €180m a year.

✈ **Invest in revenue quality and best product:** It will be rolling out new F-class and J-class products bringing them up to date with the



With of the lines relate to number of seats on each route.
Pie charts show the market shares of short haul routes by carrier.
Area of the pie charts relate to the total annual number of short haul seats.

industry norm full flat-bed long haul seats and which will allow it to introduce a new Premium economy seat.

The new Germanwings

Few network carriers have managed to establish a low cost subsidiary and made it work. In fact Lufthansa's Germanwings brand, which has competed head-on with Lufthansa itself, can hardly have been described as *that* successful; but at least it has been losing less money than Lufthansa's own short haul network.

Lufthansa's problem is unusual for a network carrier: a substantial portion of its short-medium haul operations bypass its main hubs at Frankfurt and Munich. Underlying this is the geopolitical nature of the German market: it is decentralised, based on the Federal organisation of the country; there are substantial domestic traffic flows between the Länder main cities; there are substantial business oriented flows from the major cities to other centres in Europe which attract good point-to-point services; Lufthansa's main base at Frankfurt is not itself a very strong O&D market. From Lufthansa's position it needs to be able to offer its major corporate customer base the shorter haul direct routes in order to retain the corporate deals for the more lucrative services longer haul.

Lufthansa itself is the second largest carrier in Europe in terms of short haul seats offered (behind Ryanair and ahead of easyJet) with around 9% of the market in 2012. Combined with Germanwings operations some 25% of its short haul seats (under 3,500km) do not touch its hubs in Frankfurt or Munich.

The map on the left shows the major traffic flows within Germany (the thickness of the lines relate to the total number of seats on offer in the market). The routes with the highest density of capacity are naturally those to and from Munich and Frankfurt. However, there are still some very strong flows between the other major centres in Berlin, Hamburg, Düsseldorf, Köln, Stuttgart and Hannover.

Lufthansa's answer to the problem is to turn all the non-hub flying to a new Germanwings. It is injecting all its existing intra-European routes that bypass its hubs into the "new" carrier. This will affect some 10% of Lufthansa Passenger Airline's revenues, 20% of the passenger numbers and a third of the short haul fleet.

The management refer to it as creating the largest German "low cost" airline with €2bn of revenues, 18m passengers a year and a fleet of 90 aircraft; although it would in fact be around half the size of airBerlin. Operating from both primary and secondary airports it will account for 27% of the company's domestic capacity, while bringing Germanwings fully within the Lufthansa operation (including yield management systems) will add the strength of the Group's strong corporate contract base and FFP (and remove an internal competitor).

After a six month delay, Germanwings introduced its new design, "philosophy and product" at the beginning of July. Perhaps accepting that no German airline could really be low cost, the mantra is "Choice at Low Cost" providing, in the management's view, a unique offering in Europe. In one sense the company is applying the LCC philosophy (quick turnaround, high utilisation, no overnight hotacc expenses) with almost a "re-bundling" of the LCC product to come closer to matching the legacy short haul product.

To this end it is offering a *quasi* business class (front three rows of the aircraft only), higher seat pitch of 31 inches in the first ten rows (against 29 inches in the rest of the bus), simple pricing points that progressively re-bundle the elements of flight service (food, baggage) but are limited by type of distribution channel. The new operation will probably have to incorporate some of the legacy Lufthansa distribution channels to satisfy the needs of all customers – but the management states that the customer will pay all additional transaction costs and there will be no incentives given to intermediaries.

It will focus on the top six markets in Germany outside Munich and Frankfurt, and reposition the "brand" to try to give a clear differentiation in the market place. By introducing the mix and match product approach ("focus on individualisation to meet customers' needs") it hopes to retain the existing Germanwings and Lufthansa passenger base. Above all the strategy will be to maintain Germanwings' lower unit cost base and gain significant uplift in overall yields.

The aircraft fleet is being restructured. The aim is to reach 2015 with a fleet of 64 A319/A320s and 23 CR9s leased in from Eurowings. Ideally there should be a single aircraft type, but to retain market presence, Germanwings was willing to use the regional jets.

In the transfer of operations to Germanwings the group maintains it will achieve significant unit cost savings on the old Lufthansa operation (despite the increase in complexity). Much of this comes from the changes in the fleet, removal of the ancient 737s, increase in average seat capacity, and the ability to procure passenger handling at market costs. A significant benefit comes from crewing costs: the company will be putting all the cockpit crew and cabin crew on the Germanwings pay-scales leading to a 15% reduction in pilot costs and 30% in cabin crew costs per block hour.

The company stated that the results of the changes so far have been encouraging. It presented a forecast for 2013 showing traffic demand up by 5% against a 1% rise in capacity and an overall improvement in revenue per passenger of 4.5% (a modest increase of 1.6% on the Lufthansa services and up by 11% on the Germanwings services), and expecting a near €90m improvement in earnings in the current year.

The new Germanwings operation is designed to be one of the largest contributors to the SCORE programme with the aim to return the non-hub network to break-even in 2015 effectively targeting a €200m turnaround in fortunes.

Profit warning?

Only three weeks after the investor presentation the company came out with what was viewed as a profit warning. The group undershot market consensus forecasts for the nine months to the end of September, stating that its adjusted operating results came in at €660m. Last year for the same period the group published an operating result for the first nine months of €628m. In view of this the group has refined its forecasts for the full year pointing to an operating result of €600-700m after "non-recurring" effects of around €300m, compared with a published figure for 2012 as a whole of €524m. The group maintained that current trading was not that much different from its earlier expectations and that it retained its goal of achieving €2.3bn in operating results by 2015.

However, the announcement was far more complex than this, and introduced the idea that we should be looking at profit performance measures including and/or excluding various one-off restructuring costs, as if restructuring costs were unusual or extraordinary. This seemed designed to confuse; as one London-based analysts put it, "a flag carrier that is not restructuring is not an airline but an aeroplane museum". Another element of confusion in communication comes from the statement that capacity would be growing at an average of 3% a year – below market trends. However, from the company's own plans it appears that it is expecting capacity growth of over 5% in 2014 – albeit partly an automatic reflection of the changes in the fleet and seat configurations. Achieving the stated €2.3bn target annual operating result in the next 26 months may be achievable; but only there is a remarkably strong performance in 2015.

AEA long term trends: some observations

Opposite are some traffic and capacity graphs showing AEA trends going back to 1992, the start of Europe's deregulated era. RPKs, ASKs and load factors have all been smoothed seasonally by using 12 month rolling averages. Trend lines (polynomial) have been added.

Starting with the North Atlantic, the trend clearly indicates a plateau in traffic, most evident since the beginning of the financial crisis from 2008 which coincided with the final stages of North Atlantic consolidation. With three or four virtual airlines now dominating the overall market, and dividing up the market into near-monopolistic mega-hub systems – LHR, CGD/AMS and FRA/MUC/ZRH – there is no real incentive to increase capacity.

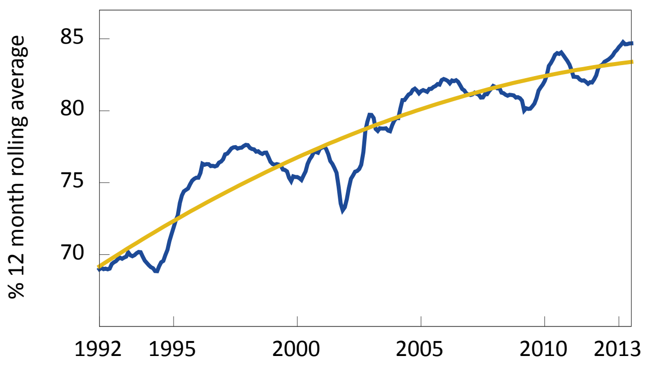
Despite the recession load factors have continued to increase, now averaging 85%, ten points higher than a decade ago. All the three network carriers now happily report strong unit revenues and profitability in this key market (see, for instance, LH's comments on pages 1-5). This is tempting for new entrants – Norwegian's new 787 Gatwick-JFK operation is in service, albeit with some technical hitches.

The South Atlantic displays the positive exponential curve that so many industry forecasts rely on; it is also an illustration of the key strategic reason for the BA-Iberia merger. It is also worth noting the relative size of this market: capacity and traffic this year on the South Atlantic are roughly at the same level as on the North Atlantic 20 years ago.

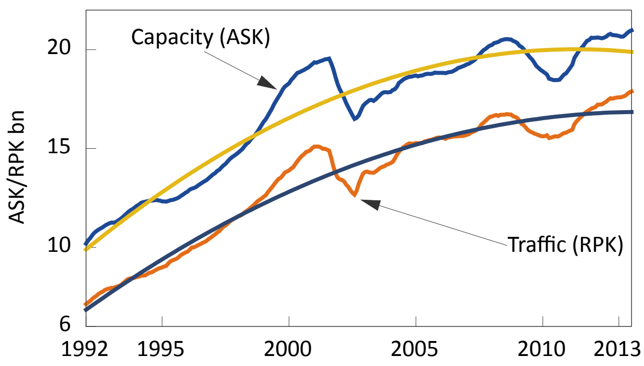
The intra-Europe market is the great dilemma for the European network carriers – vital for providing feed to/from the intercontinental network but consistently loss making (see again LH article in this issue). For the AEA carriers, traffic growth has been more or less static for ten years as the LCCs have grown their market share. However, the AEA carriers are utilising their short-haul equipment much more efficiently; average load factor has leapt 20 percentage points over the past 20 years, but at 75% is still 10 percentage points lower than that achieved by the leading LCCs. It may be that the AEA carriers will never match the LCC performance here as intercontinental feed requirements and lack of seasonal flexibility means they cannot match capacity as closely to demand as the LCCs.

Finally, the Europe-Far East segment has shown steady linear growth for the AEA carriers but has not tracked the spectacular growth trends in the overall market, as the super-connectors have captured this traffic. Load factors, as on the North Atlantic, are in the mid-80s, which must be close to maximum, but whereas this translates into higher unit revenues on the North Atlantic, yields and revenues on the Far East routes are conditioned by the continuous massive expansion of the super-connectors.

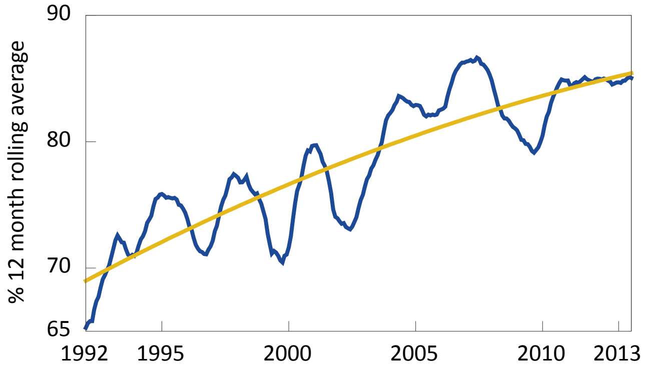
North Atlantic: Load Factors



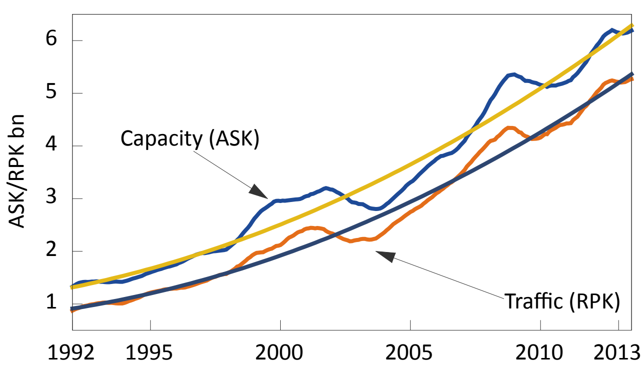
North Atlantic: Capacity and Traffic



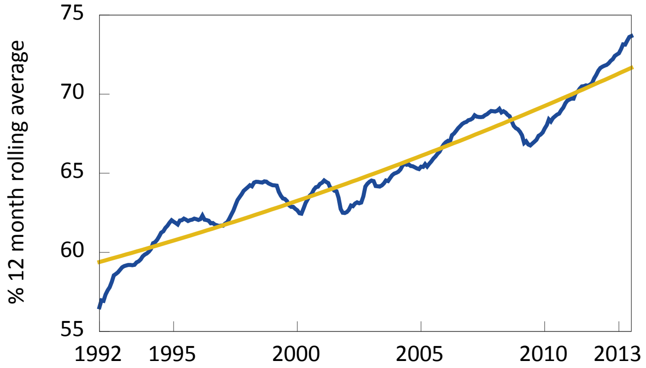
South America: Load Factors



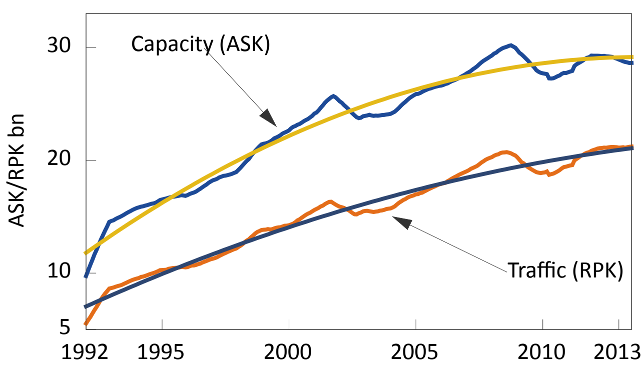
South America: Capacity and Traffic



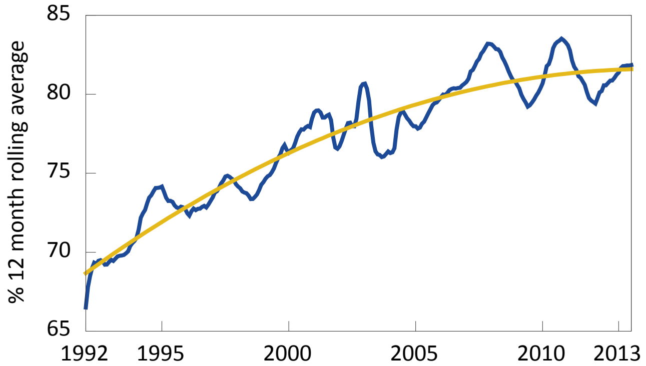
Intra-Europe: Load Factors



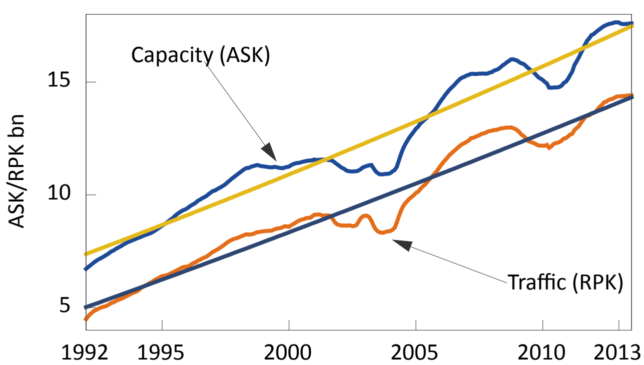
Intra-Europe: Capacity and Traffic



Far East: Load Factors



Far East: Capacity and Traffic



Source: AEA

Aegean/Olympic: Virtual merger now real

In mid-2009, the Greek diversified investment company, Marfin Investment Group (MIG), completed its purchase of the intangible assets of the state-owned Olympic Group (ie the airline brand, logo, three Heathrow daily slots, its domestic ground handling concession and its land use rights to two maintenance hangars at Athens for €105m). The deal was unsuccessfully challenged by a last-minute bid from Aegean.

Over a three year period, Olympic is estimated to have accrued a €300m exposure in purchase price, set-up costs, assumed aircraft lease liabilities and operating losses as it attempted to compete with Aegean. Rejecting the opportunity to re-invent itself as an LCC, it reformed the old highly inefficient state-owned model by dropping all long-hauls and other hopeless routes and immediately replacing elderly, fully depreciated, 737s and ATRs with new A320s and Q400s, at a high capital cost. Both Olympic and Aegean employed essentially the same, small-scale, legacy airline model, engaged in a brutal battle for market share, especially in the domestic market, and both lost large amounts of money.

In 2010, both carriers applied for merger approval to the European Commission and the national competition authority. The merger was not allowed, because of dominant position concerns, so the Greek solution was a virtual merger. Routes, fleets and fares were synchronised. Olympic sold its LHR slots to Aegean, withdrew from most trunk European routes and focused on trunk domestic, PSO and Balkan turboprop operations, while Aegean proceeded with a significant European expansion.

While this was a convenient arrangement, it did not translate into profitability. As the extreme Greek economy recession hit, traffic volumes collapsed (total domestic traffic fell from 6m annual passengers in 2008 to 4.1 in 2012), and both carriers were faced with drastic revenue reductions while sustaining legacy-type fixed cost structures. In addition, there was increased domestic trunk route competition from Cyprus Airways (now withdrawn) and a staged UK LCC expansion into Greece. Aegean reacted by slightly divesting its Athens presence and entering the seasonally attractive Athens-bypass leisure market. Olympic retreated further into the domestic and Balkan markets. Finally, Olympic and Aegean divided six domestic trunk routes in September 2013.

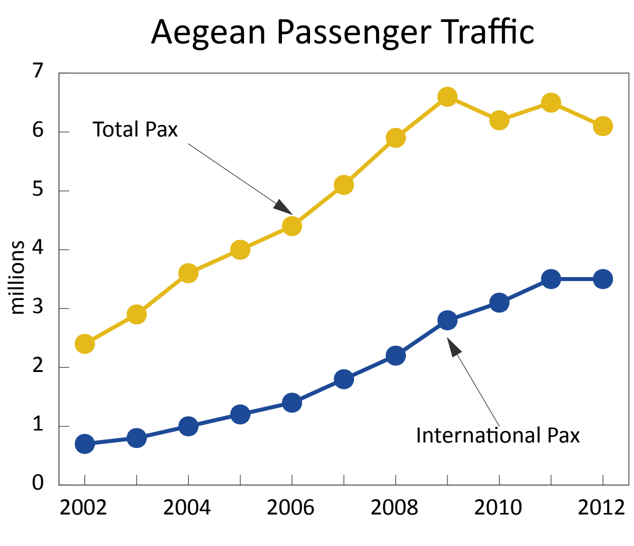
In essence, the EC was forced to accept the reality of the existing "virtual" merger and offer a stamp of approval. There had been no fundamental change in the domestic competition scene since the 2010 decision, but the rationale behind the 2013 approval was that Olympic was a failing company. The 2010 disapproval created a virtual domestic monopoly; now there is an actual domestic monopoly.

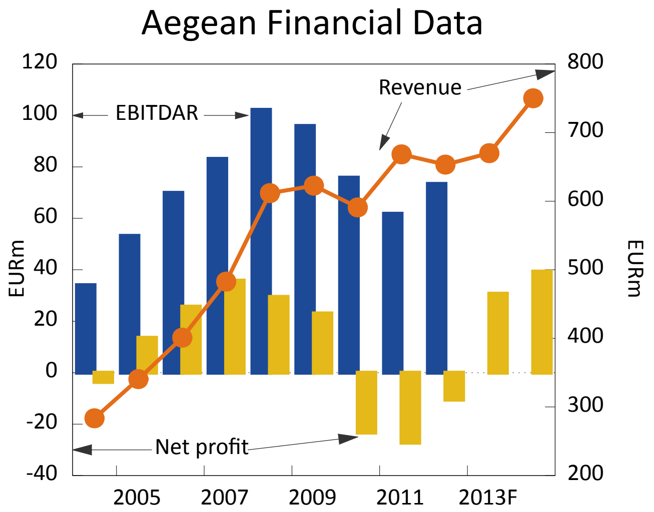
The Greek stockmarket liked the decision, one of the few pieces of good news in recent years, and Aegean's share price has rocketed. Yet fundamental problems have not been tackled.

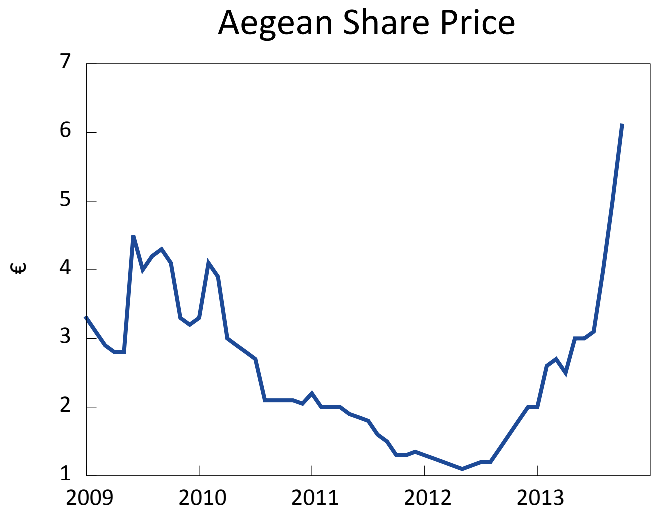
In a corner of Europe eminently suited to LCCs, Aegean is still a very traditional carrier, a sort of British Midland. It is vulnerable to attack

Aegean v Olympic

	Aegean	Olympic
Fleet	30xA319/20/21	10x Q400 4x Q200 1x A319
Airline staff	1,480	610
Total Passengers 2013e	6.5m	1.9m
Domestic traffic	2.5m	1.6m (0.5 PSO)
International traffic	4.0m	0.3m
Revenues (€ m)	630	170







from LCCs like Ryanair and easyJet offering direct service from northern European points to island destinations, further undermining the traffic that used to connect at Athens. easyJet might finally be tempted to establish an Athens base and enter the domestic market from there (it flies to Athens from multiple European points, but Ryanair won't touch Athens because of the very high airport charges).

There is even the possibility of a Greek new entrant. Inevitably, monopolies attract challengers (the net average domestic fare is now at €60 for a typical 45 minute segment), and entering at the bottom of the cycle, encouraged by very low labor costs, to attack a legacy monopoly could be enticing. However, Aegean will probably enjoy a one or two year "honeymoon" before any serious contender can be satisfied on these issues:

✈ A more clear path on the Greek economy outlook;

✈ Uncertainty over the eventual ownership of Athens airport (and its future charges); and

✈ The outcome of the privatisation of some 18 regional airports, now in progress.

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Other Greek Airlines

Astra Airlines Based in Thessaloniki, it operates two BAe146-300s and one A320. Though it serves a handful of domestic scheduled routes from Thessaloniki to the islands, by far its largest market is the IT traffic from Russia and other eastern European countries to northern Greece (an estimated 500,000 passengers in this segment in 2013). Note that Russian tourist arrivals in Greece in 2013 are registering a 47% increase year-to-year. Though Aegean is attempting selective inroads into this fast-growing market, Astra is well positioned commercially and enjoys a definite cost advantage. Secondly, Astra is trying to position itself as Thessaloniki's "home airline", catering to the local leisure travel demand by offering direct summer connections to the Aegean islands, eliminating the Athens connection necessary with Aegean.

Bluebird Airways Based in Heraklio, Crete, this is a genuine destination-based charter carrier operating three 737 Classics. It also concentrates heavily in the incoming Russian IT traffic, having strong commercial and financial links with St. Petersburg- based tour operator Tes, itself believed to be controlled by Russian airline S7. Bluebird is truly seasonal, virtually shutting down from November to February. Like Astra, they seem well positioned to defend their niche against Aegean. Their secondary focus is the growing Israeli incoming IT market.

Sky Express Founded in 2005 and based in Heraklio, Crete this is a turboprop regional commuter operating two BAe Jetstream41 and one ATR42. Its business model is centered in providing Heraklio (Greece's fourth largest city) with Athens bypass scheduled services to about 20 domestic destinations, including a sizeable portion of PSO routes. To their credit, they have followed a prudent conservative and consistent strategy, keeping a close eye on costs and capacity.

Frontier: Taking the ULCC model nationwide in the US?

It was announced on 1st October that Indigo Partners, the US private equity firm, had agreed to buy Denver-based Frontier Airlines from its current owner, Republic Airways Holdings, in a $145m transaction ($36m cash plus assumption of debt). The deal, which requires the formal blessing of Frontier's two key unions by 31st October (among other conditions), is expected to close in December.

This is a highly positive development for Frontier, which has been through painful restructuring in recent years, is grossly undercapitalised and had been on the sale block for over two years.

The deal brings to an end an interesting (failed) experiment by a US regional carrier to diversify into the LCC sector. Republic, which has owned 100% of Frontier since 2009, will now return to its roots of operating only fixed-fee feeder services for the US legacies.

But most interestingly, Indigo's investment in Frontier could mean a significant expansion of the ultra-low-cost-carrier (ULCC) business model in the US, where it has so far only been utilised by two niche carriers – Spirit and Allegiant.

Indigo plans to inject additional funds into Frontier and is looking to build the carrier into a "leading nationwide ULCC". It expects to take over Frontier's 80 A320neo orders (reimbursing Republic $32m for pre-delivery payments made), which will start arriving in 2016. Indigo's co-founder and managing partner William Franke has said that Frontier will continue to be based in Denver, expand to new markets and improve efficiency.

History of losses, recent turnaround

Frontier, which began operations in 1994, has struggled financially through much of its existence. That can largely be attributed to the decision to be a hub-and-spoke carrier at Denver International (DEN) – a relatively high-cost location, a key hub for United and today probably the most competitive aviation market in the US.

Frontier did manage to coexist with United by building a loyal customer base and maintaining high efficiency. But Southwest's January 2006 entry into Denver and subsequent rapid expansion there hit Frontier hard. Counter-strategies such as expanding into Mexico, operating a regional feeder and signing up Republic as a feeder partner, had mixed success. A surge in fuel prices and issues with a credit card processor forced Frontier into Chapter 11 in April 2008.

In 2009 Frontier nearly became a target for a bidding war between Southwest and Republic, but Southwest had to back off because it was unable to secure approval from its employees. Republic bought Frontier out of bankruptcy in October 2009 (for $109m plus $1bn of debt and lease obligations).

Republic wanted to secure its feeder contract (which Frontier had rejected in Chapter 11), diversify away from the regional sector (where demand and profit margins had been hit by legacy carrier contraction and hub closures, renegotiation of contracts, etc.), and it needed homes for idle RJs.

A few months earlier Republic had acquired Milwaukee-based Midwest Airlines, so it ended up combining Frontier and Midwest under the Frontier name, centralising their management in its Indianapolis headquarters and transferring many RJs to the new acquisitions. The strategy did not work. After briefly becoming profitable in 2009 thanks to cost cuts implemented in bankruptcy, Frontier lost $52m and $95.3m on a pre-tax basis in 2010 and 2011, respectively.

But in 2012 Frontier earned a $23.9m pre-tax profit on revenues of $1.4bn. In 2Q13 its pre-tax margin was a promising 4%. The management is anticipating a 10-12% operating margin in the third quarter. So 2013 is shaping out to be a nicely profitable year for Frontier.

The turnaround has been the result of two key developments. First, Republic implemented a very successful restructuring at Frontier in late 2011, achieving $120m of annual profit improvements thanks to employee, vendor and lessor concessions, elimination of smaller RJs, network restructuring and a modest downsizing.

Second, Frontier has enjoyed a lull in competition. The United-Continental merger, the Southwest-AirTran merger and Southwest's multi-year "no growth" mode significantly eased competitive pressures in both Denver and Milwaukee (though Southwest did continue to add flights in Denver).

The restructuring enabled Frontier to close the unit cost gap with the mainstream LCCs. Its ex-fuel CASM fell to around 7 cents, which analysts noted was comparable to Southwest's on a stage-length adjusted basis.

But, in part because of its downsizing (ASMs were down 11.4% in 2Q13), Frontier has not been able to transform itself into an ULCC – a goal that Republic first mentioned in early 2012. In 2Q13 Frontier's ex-fuel CASM was 7.27 cents – much higher than Spirit's 6.00 cents and Allegiant's 5.43 cents (not stage-length adjusted figures).

So work remains to be done on the cost front. Franke has mentioned the potential to improve aircraft utilisation, maintenance management and fuel efficiency. The return to Republic of the five E190s in Frontier's fleet should also help CASM, as will the continued switch to larger A320-family models and the future A320neo deliveries. Frontier recently eliminated its last A318s and by year-end expects to operate 35 A319s and 18 A320s.

Frontier should also benefit from Indigo's expertise in developing an attractive ULCC revenue model. It has introduced new up-sell products (including five rows of seating with extra legroom) and begun charging extra for numerous items, but the complicated fee structure could benefit from simplification.

On the network front, Frontier's new strategy has been to reduce exposure to Southwest. First, Frontier pulled out of lossmaking routes in Milwaukee and Kansas City and retreated to its Denver core, which it can defend more easily. Second, it has added service from Denver to many smaller cities where Southwest does not fly (Knoxville, Bismarck, Sioux Falls, etc.). Third, it is now courting more connecting passengers at Denver.

Fourth, in the past year Frontier has entered and aggressively added service from obscure places such as Trenton-Mercer (New Jersey) and Wilmington/Philadelphia (Delaware). By February 2014 it will be serving an amazing 11 destinations from Trenton. These airports are low-cost, small but strategically located (so they attract sufficient traffic), offer alternatives to congested hubs in the Northeast and enable Frontier to be the only airline in most markets.

As evidence that the new network strategy is working, Frontier has been outperforming its peers in terms of RASM improvement fairly consistently in the past 2-3 years. Frontier currently serves 75-plus cities in the US, Mexico, Costa Rica, Jamaica and Dominican Republic.

Frontier's ULCC prospects?

The deal with Indigo was possible because of Frontier's successful restructuring. But what makes Indigo think that the ULCC model could have wider appeal in the US? When the deal was announced, Franke put forward a very simply argument: "As airline fares continue to move up, passengers need affordable travel alternatives".

Domestic air fares in the US have indeed increased in recent years. A May 2013 study by the Boyd Group found that the average true price of a one-way ticket has increased by nearly 30% since 2008 and that low-cost airline entry was "no panacea to lower air fares".

It is also clear that many mainstream US LCCs have moved in the opposite direction. JetBlue has just added a first class transcon product in a bid to attract high-yield traffic.

US travellers need access to low fares, so it is plausible that, after years of scathing attacks in the media, criticism from consumer organisations and government attempts to introduce legislation to ban ancillary fees, public opinion may now start switching in favour of the ULCC model.

Spirit and Allegiant have been the fastest-growing and highest-margin airlines in the industry. Spirit has had four consecutive years of profitability (basically since it switched to the ULCC model); in 2Q13 its adjusted pre-tax margin was 17.8% and ROIC was 28.8%. Allegiant had a 16.8% operating margin in 2Q13, its 42nd consecutive profitable quarter.

Indigo has a strong record of building successful ULCCs. It held significant stakes in Tiger Airways (Singapore) and Spirit Airlines, and it remains a lead investor in Hungary's Wizz Air and Mexico's Volaris. (Franke sold his stake in Spirit and resigned as its chairman this past summer after Indigo began exclusive talks with Frontier.)

One of the big concerns for Frontier is its exposure to competition. As one analyst noted in 2011, "few hubs can support two, let alone three competitors". Frontier has fallen into third place in Denver.

But it is possible that as an ULCC Frontier might find it easier to co-exist with United and Southwest in the long-term, because the business model would be more different. Spirit has found that to be the case with American in Florida, because the legacy (being the snob that it is) is not interested in the type of traffic that an ULCC attracts.

Likewise, Southwest and Frontier would cater for different passenger segments. Southwest represents the extreme in the avoidance of ancillary fees – a strategy that it believes has been instrumental in fuelling its rapid growth in Denver. Frontier would represent the other extreme, catering for the travellers that seek the rock-bottom fares and total control over what they pay for.

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Leasing Industry Annual Survey: Continues on upward path

Though memories of the cycle's lowest point are still relatively fresh, the last 12 months has seen another good year for the global leasing industry – and there's full expectation that the recovery will gather pace through the rest of this year and into 2014.

The proportion of leased aircraft in the global fleet continued to rise in the last 12 months, reaching around the 42% level according to several analysts, compared with approximately 25% in 2000 and 11% in 1990 – and with some forecasts still insisting the proportion may even rise above 50% by 2015.

According to Ascend there are some 6,400 aircraft in the current global fleet that are "out of production" models and which are due to be replaced over the coming years. North and South America, followed by Europe, are the areas with the highest amount of these aircraft. But the BRIC markets of Brazil, Russia, India and China also remain a prime focus for many lessors, with substantial scope for growth in leased fleets there.

In *Aviation Strategy's* annual survey of the leasing industry (see table on page 13), the overall fleet for lessors with more than 100 owned or managed aircraft totals 6,394 – compared with a total of 5,879 for lessors with 100+ aircraft as of 12 months ago (see *Aviation Strategy,* September 2012).

The Big Two (GECAS and ILFC) together account for 41.7% of the 100+ lessor fleet, though this is down from 46.6% as of 12 months ago and due to both the giants easing back their portfolios and aggressive expansion from a number of the medium-sized lessors (such as SMBC Aviation Capital, ORIX Aviation, ICBC Leasing and BOC Aviation).

However, the Big Two are likely to claw back some of that lost ground as they led all lessors in terms of net new orders placed over the last 12 months. In the last 12 months the outstanding order book (for the entire leasing industry – not just the 100+ aircraft lessors) has risen by more than 15%, to 1,618, thanks largely to new orders from GECAS, ILFC, Avolon, ICBC Leasing and the Air Lease Corporation.

Those orders mean that 100+ fleet lessors now account for 88.3% of all lessor orders, compared with 85.2% a year ago. with the only significant order book from lessors with less than 100 aircraft in their current portfolio coming from Alafco, which has 125 aircraft on order.

Over the next few pages *Aviation Strategy* profiles the leading lessors in descending order of portfolio size.

General Electric Capital Aviation Services (GECAS)

GECAS, part of the giant conglomerate GE (with around $148bn of revenue annually), is continuing to trim its portfolio – although the pace of reduction is lessening, with owned and managed aircraft falling from 1,710 to 1,680 in the last 12 months (compared with a total of 1,830 two years ago).

The fleet has an average age of more than seven years, but new aircraft arrivals are starting to reduce the age profile of the portfolio. As at June 30, by value 45% of the owned portfolio is five years old or less (compared with 41% a year ago), while 29% is aged between six and 10 years (24% a year ago), 20% is between 11 and 15 years (26%) and 6% is aged 16 years or more (9%).

There has also been a substantial shift in the proportion of narrowbody to widebody aircraft. Narrowbodies account for 45% of the fleet by value (substantially down on the 57% they accounted for 12 months ago), with 29% being widebodies (up from 20% a year ago), 11% RJs and 7% cargo variants (the rest of the "fleet value" is in standalone engines). All but a handful of the narrowbody fleet are

The Lessors' Fleets

Company	Total portfolio	Change from 12 months ago	Boeing orders	Airbus orders	Total orders	Change from 12 months ago
GECAS	1,680	-30	138	101	239	49
ILFC	987	-43	94	185	279	51
BBAM	450	-2	6		6	-7
SMBC Aviation Capital	343	105	29	30	59	-21
CIT	329	4	58	97	155	18
AerCap	325	33	10	4	14	-7
AWAS	263	23	8	48	56	-27
BCC	250	-22				–
ACG	250	5	92	55	147	12
BOC Aviation	229	41	5	63	68	20
ORIX Aviation	170	49				–
Air Lease Corporation	162	32	178	99	277	34
Aircastle	158	3				–
Macquarie AirFinance	142	-13				–
SkyWorks Leasing	132	37				–
ICBC Leasing	112	49		77	77	35
FLY Leasing	107	-4				–
Avolon	103	-2	28	24	52	35
Pembroke Group	102	18				–
MCAP	100	-10				–
Total	6,394		646	783	1,429	
Other lessors with orders (ranked by orders)						
Alafco	50		28	97	125	20
Intrepid Aviation	3			17	17	-1
Alphastream				15	15	–
Sberbank Leasing			12		12	12
OH Avion				8	8	–
Meridian Aviation Partners				5	5	5
DAE Capital	52		5		5	-14
Texas Aviation Group				2	2	2
Total			691	927	1,618	

A320 family and 737NG aircraft, with the widebody fleet largely comprising 767s, 777s and A330s.

The portfolio is placed with 230 customers in 75 countries, and the biggest market for GECAS remains the US, where 29% of the fleet by value is placed – though this is down from 32% a year ago and from 47% as recently as 2009. The next most important market remains Europe (24% of overall fleet value), followed by the Asia/Pacific region (19%), the Americas (13%) and all other markets (15%).

While GECAS is still behind ILFC in terms of outstanding orders, its order book has risen significantly, from 190 as of a year ago to 239 today. In September GECAS finalised an order for 10 787s (firming a commitment made at the 2013 Paris air show), with deliveries scheduled to begin in 2019. In total GECAS's order book comprises 138 Boeing aircraft (120 737s, two 747s and 16 777s) and 101 Airbus models (70 A320s, 28 A321s and three A330s).

GECAS is headquartered in Stamford, Connecticut and has 23 other offices around the globe, with a total of 480 employees. In the first six months of 2013 GECAS's revenue rose very slightly to $2.7bn, with a 4% rise in segment profit to $652m.

International Lease Finance Corporation (ILFC)

Owned by insurance giant AIG – which considers it a "non-core asset" as the insurer attempts to recover after a $182bn US government bailout in 2008 – ILFC has had another rollercoaster 12 months since our last survey.

After several unsuccessful attempts to offload the lessor, it looked as if an exit had finally been secured in December 2012 when AIG announced it was selling 80.1% of ILFC for $4.2bn in cash to Jumbo Acquisition Limited, a consortium of Chinese investment companies comprising New China Trust (one-fifth owned by Barclays), New China Life Insurance, P3 Investments and the China Aviation Industrial Fund. Jumbo also had an option to buy a further 9.9% for $522.5m, which in July this year the consortium said it would exercise. However, in August New China Trust and China Aviation Industrial Fund withdrew from the consortium after reports the partnership had been struggling to raise the investment needed, and the deal has now effectively collapsed.

ILFC says that "AIG continues to consider us as a non-core business and is continuing to pursue other options for us, including a sale or initial public offering" – and so the saga of a company with more than $23bn of outstanding debt continues.

Based in Los Angeles, ILFC has offices across the globe and in the first half of 2013 the lessor recorded revenue of $2.2bn, 5.3% down on the same period in 2012, with net income plunging from $322m in the first half of 2012 to $83m in January-June 2013. According the ILFC this was due to a number of factors, including "lower lease rates on aircraft that were re-leased or had lease rates change … and a decrease in the average number of aircraft in our fleet".

ILFC's fleet has been eased back over the last 12 months from 1,030 to 987 aircraft, comprising 910 owned and 77 managed aircraft. The lessor has been disposing of older aircraft (30 went in the first six months of 2013) and has also been looking to acquire newer aircraft through purchase and leaseback deals with airlines – it has acquired 22 aircraft from four customers through these types of transactions so far this year.

The owned aircraft have an average age of 8.5 years and have a net book value of approximately $34bn (compared with a value of $35.1bn a year ago). 72% of the portfolios are narrowbodies and the rest widebodies, and as of June 30 they were placed with 172 clients in 79 countries around the world.

Over the last 12 months ILFC has exercised purchase rights for 50 A320neos and was also the launch customer for the Embraer E2 aircraft, of which it has ordered 50 (with options for 50 more); the lessor says that the model "now provides ILFC with a third source of quality aircraft". Excluding the Embraers, the ILFC has boosted its order book yet again over the last 12 months (rebuilding from a low of just over a 100 aircraft as of three years ago), and outstanding orders now stands at 279 aircraft (compared with 228 a year ago), comprising 125 A320s, 40 A321s, 20 A350s, 23 737s, and 71 787s.

BBAM

In January this year Onex, a Canadian private equity company, bought 50% of BBAM for $165m, with 35% coming from the previous 85% stake owned by its management team, led by CEO Steve Zissis, and 15% coming from buying all the equity owned by Dublin-based Fly Leasing (*see Fly Leasing profile below*).

BBAM is based in San Francisco and has eight other offices worldwide. Its managed fleet has remained almost flat at 450 narrowbody and widebody aircraft over the last 12 months, which are valued at more than US$13bn.

BBAM has more than 80 airlines clients, including easyJet, British Airways and Ryanair in Europe, the "Big Three" in China, and United and Virgin America in the US. It has outstanding orders for just six 737s, making it the Top 10 lessor (excluding BCC) with the smallest order book.

SMBC Aviation Capital

Owned by Sumitomo Mitsui Banking Corporation, SMBC Aviation Capital is based in Dublin and has offices in Tokyo, New York, Amsterdam, Hong Kong, Beijing, Shanghai, Singapore, Seattle and Toulouse.

Since its acquisition from RBS the lessor has expanded substantially, and in April this year it accelerated its growth through the integration of SMFL Aircraft Capital Corporation and Sumisho Aircraft Asset Management (SAAM). This helped its fleet grow from 238 to 343 in just 12 months, of which 249 are owned and 94 managed.

The owned fleet has an average age of less than five years and is almost entirely made up of narrowbodies, including 102 737-800s, 76 A320s and 42 A319s, which are placed around the globe with customers that include BA, Air France and Lufthansa in Europe, and JAL, Air China and Qantas in the Asia/Pacific region.

On order are 59 aircraft, comprising 29 737s and 30 A320s, and an expansion of the order book will be vital if it wants to maintain its newly-won fourth place in the lessor table.

CIT Aerospace

CIT Aerospace has seen its portfolio rise slightly over the last year, from 325 to 329 owned and managed aircraft, of which the majority are narrowbodies. The owned portfolio has an average age of six years and is placed with 94 airlines, and the lessor's most important market is the Asia/Pacific region, where 38% of the portfolio by value is placed, followed by Europe (30%), US and Canada (13%) and Latin America (12%).

The New York-based lessor is owned by the US bank holding company CIT Group, and also has offices in Florida, Los Angeles, Connecticut, Seattle, Toulouse, Dublin and Singapore.

Earlier in 2013 CIT Aerospace ordered 30 737 MAX8s, although 20 of those were converted from existing orders for 737NG aircraft. In total CIT Aerospace has 155 aircraft on order, including 48 737s, 10 787s, five A320s, 52 A320s, 13 A321s, 12 A330s and 15 A350s, which gives it the fourth largest order total of all lessors.

AerCap

AerCap is based in Amsterdam and has offices in Ireland, the US, China, Singapore and the United Arab Emirates. Last year AerCap "decided to explore a range of strategic alternatives to enhance shareholder value, including continued execution of our operating strategies, further share repurchases, aircraft portfolio sales or a sale or merger of the company", which led to the sale of its equity in Aircraft Lease Securitisation Limited (comprising a portfolio of 50 aircraft) for $1bn to Guggenheim Partners in November 2012 – though AerCap will continue to manage the aircraft.

In the first six months of 2013 AerCap's revenue fell 4% to $493m, due largely to the reduction in fleet, though adjusted net income rose 5% to $135.1m.

As of the end of the second quarter of 2013 AerCap's portfolio stood at 325 owned and managed aircraft (compared with 292 a year ago), with a total asset value of $9bn, 3% down on a year earlier.

Among the deals executed in the first half of 2013 was a purchase and leaseback agreement with LATAM Airlines Group for 25 widebody aircraft, for new aircraft being delivered between 2013 and 2017.

The average age of the owned fleet of 227 aircraft (compared with 256 a year ago) is more than five years, though this is down by four months year-on-year thanks to the ongoing sale of older aircraft, which included an A330, nine 737-800s and one MD-11 freighter aircraft in the first six months of 2013. The owned fleet currently comprises 121 A320 family aircraft and 61 737 NGs and Classics, with the biggest widebody contribution coming from 34 A330s. The lessor has four A330s and 10 737-800s on order,

The largest market for AerCap's remains Europe, which accounted for 38% of all revenue in the first-half of 2013, followed by the Asia Pacific region & Russia, accounting for 33%. The single largest customer for the lessor is now American, accounting for 11% of all lease revenue in the first half of 2013, followed by Aeroflot (8%) and Virgin Atlantic (7%).

AWAS

AWAS's fleet has risen yet again, from 240 to 263 aircraft over the last 12 months, with a book value of $8.6bn. The portfolio has 215 narrowbodies and 48 widebodies, with an abundance of different types, and they have an average age of five and a half years. The fleet is on lease to more than 95 airlines in 46 countries.

AWAS is majority-owned by private equity house Terra Firma and is headquartered in Dublin, with offices in New York, Miami and Singapore. AWAS currently has 56 aircraft on order, including 8 737s, 46 A320s and two A350s.

Boeing Capital Corporation (BCC)

Boeing Capital Corporation provides "last resort" finance for Boeing's products from aircraft to space and defence. With 160 employees BCC is based at Renton, Washington, and has other offices in Los Angeles, Beijing, London, Hong Kong and Moscow.

From February this year BCC stopped reporting results as separate 10Qs and 10Ks submitted to the SEC, and instead is now a segment within Boeing's main SEC filings. In the first six months of 2013 BCC saw a 12% decrease in revenue to $209m, with earnings from operations down 11% to $63m. That decrease in both revenue and profit is due to a continuing rundown of BCC's exposure – as at the end of June 2013 BCC owned or had partial ownership of or interest in 250 aircraft, compared with 272 as of 12 months ago. BCC's portfolio's value totalled $4.1bn, compared with $4.3bn a year ago and $6.4bn four years ago.

Unfortunately the stopping of standalone 10Q reporting means that there is no longer any information available as to the age profile of the BCC portfolio, where they are placed, nor to how exposed that portfolio is to a handful of airlines.

Aviation Capital Group

Aviation Capital Group (ACG) is owned by US insurance group Pacific Life and is located in Newport Beach, California, with other offices in Beijing, Dublin, Santiago, Seattle, Shanghai and Singapore.

In the first six months of 2013 ACG saw lease revenue rise 13.7% to $360m, though net income fell by 7.4% to $40.7m, thanks largely to increased depreciation and losses from aircraft value impairments.

ACG has a mixed portfolio of 250 owned or managed aircraft (five greater than it had 12 months ago) – including the A320 family, 737s (both classics and NGs), 757s, 767s and A330s – that are contracted to around 90 customers in approximately 40 countries.

In January this year ACG ordered 50 737 MAX 8s and 10 737 MAX 9s, and its outstanding orders now total 147 aircraft, comprising 87 737s, five 787s, three A319s, 41 A320s and 11 A321s.

BOC Aviation

Owned by the Bank of China, BOC Aviation is continuing its steady growth and its owned and managed fleet has risen from 188 to 229 aircraft over the last 12 months. With an average age of less than four years, the owned fleet includes 90 A320 family aircraft, 75 737NGs and 20 777s.

Based in Singapore, BOC Aviation also has offices in Dublin, London and Seattle, and in the first six months of 2013 the lessor reported a 57% rise in net profit, to US$163m, with total assets as the end of June 2013 totalling US$9.9bn.

In September BOC Aviation ordered 25 A320 family aircraft (to be A320 or A321 models), for delivery between 2015 and 2019. BOC Aviation's order book currently totals 68 aircraft, including four 737s, one 777, 34 A320s and 29 A321s.

ORIX Aviation

Based in Dublin, ORIX Aviation is part of the Orix Corporation, a Japanese financial services group. Over the last 12 months its portfolio has grown yet again, from 121 aircraft to 170, the majority of which are narrowbodies.

These are placed with 65 airlines in 35 countries, with Europe, North America and the Asia/Pacific region accounting for most of its portfolio. ORIX does not have any aircraft on outstanding order, giving it the dubious distinction of being the largest lessor (excluding BCC) not to have any aircraft on order.

Air Lease Corporation

Los Angeles-based Air Lease Corporation – launchedin 2010 by ILFC founder Steven Udvar-Hazy – continues its rapid growth over the last 12 months, increasing its fleet from 130 to 162 jet aircraft, with a net book value of more than $6.5bn and with an average age of just over three and a half years.

Air Lease Corporation's portfolio now includes 51 A320 family aircraft, 49 737NGs and 32 E175/190s, and they are placed with 78 airlines in 44 countries. Over the last 12 months the Asia/Pacific region has overtaken Europe to become the lessor's most important market, accounting for 39% of the portfolio by net book value; Europe now accounts for 27% of the portfolio by net book value.

In the first six months of 2013 Air Lease Corporation saw its revenue leap by 37.5% to $400m, with net profit up 50.6% to $83m.

In September Air Lease Corporation ordered 30 787s and three 787s (firming up from a commitment announced at the 2013 Paris air show), bringing the lessor's total order book up to an impressive 277 new aircraft – 151 737s, 12 787s, 15 777s, 40 A320s, 34 A321s and 25 A350s. As they arrive through the rest of the decade Air Lease Corporation will not only enter the Top 10 Lessors but appears to be on a trajectory to become to the third largest lessor at some point.

Aircastle

Aircastle's fleet nudged upwards by three aircraft over the last year to 158, all of which are owned and which have a net book value of $4.8bn. The portfolio comprises 97 narrowbodies, 39 widebodies and 22 assorted freighters, including 737s, 747s and MD11s. The fleet is relatively old, with average age of approximately 11 years.

The Aircastle fleet is placed with 67 customers in 36 countries, with the most important market being Europe, where 69 aircraft are placed, closely followed by the Asia/Pacific region, with 50 aircraft, with the rest in North America (18), Latin America (14) and the Middle East and Africa (seven).

Based in Connecticut and with other offices in Dublin and Singapore, Aircastle recorded a 2.8% rise in revenue in the first six months of 2013 to $347m, with net profit up 14% to $55.9m.

Macquarie AirFinance

Macquarie AirFinance, part of the finance giant Macquarie Group, has eased back its fleet over the last 12 months from 155 owned and managed aircraft to 142.

Based in Dublin and offices in Singapore and San Francisco, the lessor is primarily a narrowbody specialist, and of the 128 owned portfolio 66 are A320 family aircraft and 54 are 737NGs.

That portfolio is placed with 72 customers in 44 countries, and they include Etihad and flydubai in the Middle East, China Eastern and China Southern in the Asia/Pacific region, and Southwest and US Airways in North America. Macquarie AirFinance doesn't have any Airbus or Boeing aircraft on outstanding order.

SkyWorks Leasing

Headquartered in Greenwich, Connecticut, SkyWorks Leasing has a diverse portfolio of 132 aircraft (up from 95 aircraft 12 months ago), including CRJ700s, ERJs, A319/320s, A300-600Fs, MD80s, 737NGs, 757s, 767-300ERs and 747-400Fs. It doesn't have any aircraft on order.

ICBC Leasing

ICBC Leasing is part of the Industrial and Commercial Bank of China and has three business units, focusing on aviation, shipping and "large-ticket equipment". It has increased its portfolio from 63 to 112 aircraft over the last 12 months as it expands rapidly. It has offices in Beijing, Tianjin, Bangkok and Dublin, and has outstanding orders for two A319s, 65 A320s and 10 A321s.

FLY Leasing

FLY Leasing (formerly known as Babcock and Brown Air until 2010) has edged down its fleet from 111 to 107 aircraft over the last 12 months. The majority are narrowbodies, including 45 A320 family aircraft and 44 737s.

Listed on the NYSE but based in Dublin, FLY's portfolio has an average age of more than nine years, and is placed with 55 airlines in 32 countries. It has no aircraft on order

Avolon

Avolon has seen its portfolio remain almost static year-on–year at 103 aircraft, which comprises 48 A320 family aircraft, 36 737-800s, six A330s, seven 777s and six E190s. These are placed with 36 airlines in 24 countries, with the single largest market being the Asia/Pacific region, where Avolon has placed 28 aircraft, closely followed by Europe with 27 aircraft.

The lessor is owned by three private equity funds – Cinven, CVC Capital Partners and Oak Hill Capital Partners – plus the Singaporean sovereign wealth fund GIC. It's based in Dublin and has other offices in Connecticut, Dubai, Shanghai, Hong Kong and Singapore.

Avolon has orders outstanding for 20 A320s, four A321s and 28 737s.

Pembroke Group

Owned by Standard Chartered, the Pembroke Group has offices in Dublin and Limerick. Over the last year its portfolio has grown from 84 to 102 aircraft, of which 98 are owned and four managed. They include 15 different models, including 47 A320 family aircraft and 37 737s. The portfolio is placed with more than 20 airlines, including Air China, Cathay Pacific and Emirates. No aircraft are on order.

MC Aviation Partners (MCAP)

Tokyo-based MC Aviation Partners (MCAP) is a subsidiary of giant Japanese conglomerate the Mitsubishi Corporation. It has 63 employees and other offices in Dublin and Los Angeles, and has a portfolio of 100 owned and managed aircraft (10 less than a year ago).

More than 80% of the fleet are narrowbodies, including 42 A320 family aircraft and 35 737-800s, and altogether 68% of the fleet are less than five years old. MCAP's largest market is the Asia/Pacific region, where 46 aircraft are placed, followed by Europe and Africa (combined), with 26 aircraft. The lessor has no outstanding orders.

Other lessor orders

Outstanding orders from lessors with less than 100 aircraft in their current portfolio include **Alafco,** which is 54% owned by the Kuwait Finance House. It has approximately 50 aircraft in its portfolio and has outstanding orders for 125 aircraft, comprising eight 787s, 20 737s, 85 A320s and 12 A250s.

Intrepid Aviation is a freighter leasing specialist based in Stamford, Connecticut, with a fleet of three widebodies and with 17 A330 freighters on outstanding order.

AlphaStream Capital Management is based in Switzerland and has an outstanding order for 15 A320 family aircraft, while Moscow-based **Sberbank Leasing** is a generalist Russian lessor with 12 737s on order. US-based **OH Avion** has eight A330-200Fs on order while **Meridian Aviation Partners** is a Dublin-based lessor set up in October 2012 by Canadian private equity company Onex that has orders for five A330-300s.

DAE Capital – the leasing arm of the state's Dubai Aerospace Enterprise (DAE) – has 52 aircraft in its portfolio and five 777s on order, while Dallas-based **Texas Aviation Group** has orders for two A319s.

At the Paris air show **Hong Kong Aviation Capital (HKAC)** signed an MoU for the purchase of 40 A320neo and 20 A321neo aircraft, though these have not yet been turned into firm orders.