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America is on the Move

While the crisis has extended further than many expected a year ago, it is expected that recovery will eventually come; and that such a recovery will develop first in domestic, short haul, leisure, and VFR oriented markets. The US market seems to be following that pattern.

The US industry as a whole saw passenger numbers in 2020 down by 60% year on year. Operating revenues at the nine largest US passenger airlines fell by 63%, expenses by 35% and total losses reached $45.4bn. But the US market is the largest and most mature aviation market. Its domestic market is huge, in normal times accounting for 75% of the 1bn annual passengers. It should be ripe for recovery as the pandemic crisis wanes.

Since the beginning of February, nearly a year on from the onset of the crisis, there have been increasing signs of recovery. The numbers of passengers passing through airport security check points have been steadily rising and, in March, overtook prior year levels for the first time (see chart right). The current daily peak of around 1.5m is still 40% the below "normal" levels of 2019, but double that seen through most of 2020.

Secondly, there has been a resurgence of passenger demand since the end of January on domestic routes, and routes to Latin America. According to figures from A4A these two areas are currently performing at only 40% below pre-pandemic levels (see chart on the next page). Even more impressive is the performance of routes to Mexico (in normal times the second largest international market from the US after Canada with 3% of total passengers) which by the beginning of April had almost returned to pre-pandemic levels.

This performance was driven by pent-up demand for sun-seeking holiday destinations and in spite of advice from the Centers for Disease Control and Prevention (CDC) that "travelers should avoid all travel to Mexico... even fully vaccinated travelers could be at risk" and the requirement for unvaccinated passengers returning to the US to self-quarantine for at least seven days after arrival.

But the US has been forging ahead with its vaccination programme: at the time of writing 40% of the adult population had received at least one shot of the vaccine and 28% had been fully vaccinated. Indeed at the beginning of April, the CDC put out an advisory note encouraging those who had been fully vaccinated to travel.

Optimism surrounding demand recovery was echoed in the confer-

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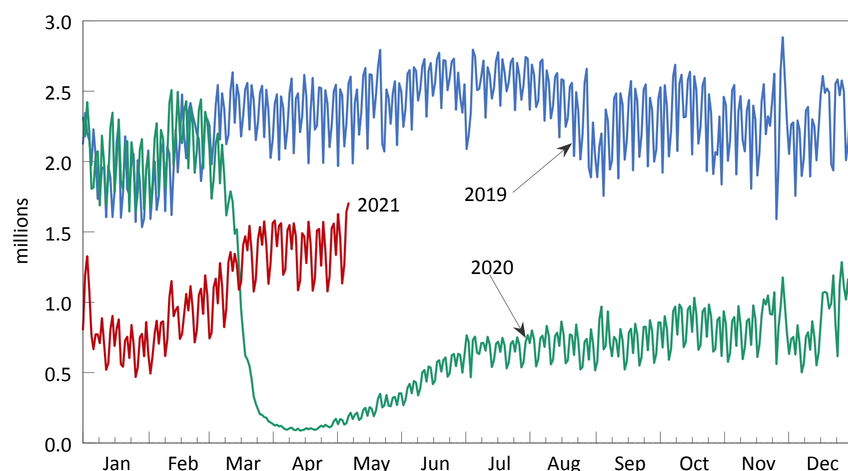

Source: US Department of Homeland Security

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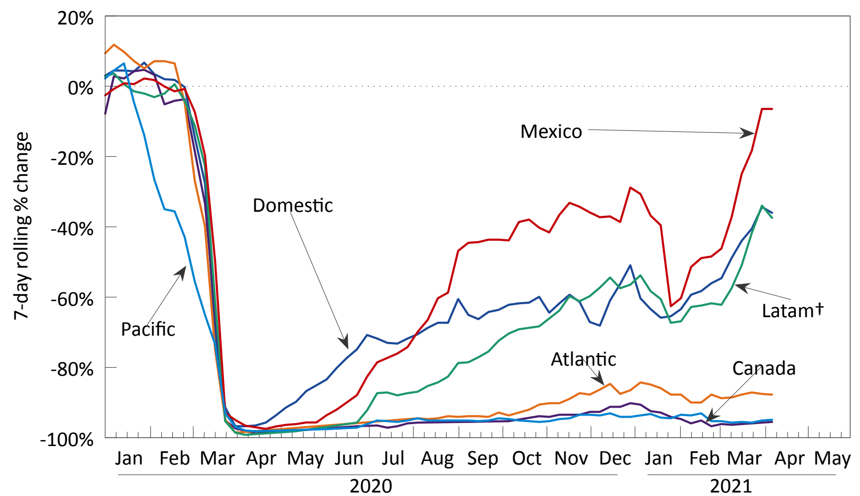
US PASSENGER VOLUMES vs PRE-PANDEMIC LEVELS



Source: A4A
Note: † excluding Mexico

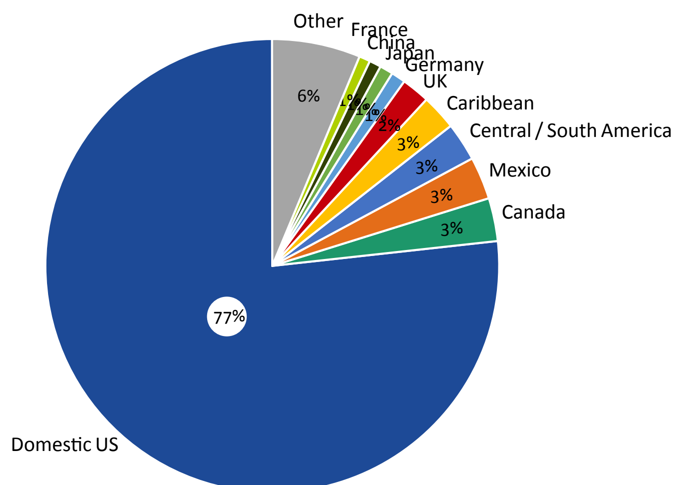
ence call commentary on the publication of Q1 2021 results.

The first quarter numbers themselves were pretty dire. American, Delta and United each reported net losses of \$1.2-1.4bn on a GAAP basis on revenues down respectively by 66%, 67% and 55%. On an "adjusted" basis (essentially excluding benefits from the payroll support scheme) the losses for the quarter came in at \$2.3-2.7bn each.

In contrast Southwest fared relatively well. With revenues only down by 50%, it was able to report an official profit of \$119m — although it too had benefitted from government support in the quarter to the tune of \$1.7bn, and on an "adjusted" basis showed a net loss of \$1bn.

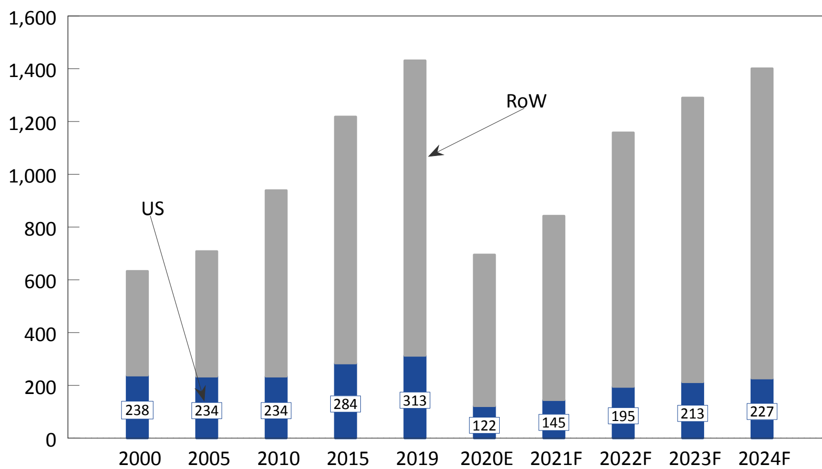
Each airline chief executive expressed sincere gratitude to the Fed-

US AIRLINE PASSENGERS BY DESTINATION (PRE-COVID)



Source: DoT Form 41 T100

GLOBAL BUSINESS TRAVEL SPENDING (US$bn)



Source: A4A, GBTA BTI Outlook, January 2021
Note: Includes air and non-air spending on travel and related activities

eral government for the support that allowed them to avoid furloughs (and survive). So far the top four carriers have received $32bn in the first two Payroll Support Programs. The third, extending the programme again to the end of September is in the process of being agreed. The support comes at a price: 30% of the payroll is granted as a ten year term loan at a 1% cash interest for the first five years; the airline has to provide share warrants; it is required to maintain certain levels of service; and cannot make redundancies, provide cash returns to shareholders and is limited on management remuneration.

The three major network carriers and Southwest (who between them controlled 80% of the US industry) each mentioned that cash burn had moderated in the first three months: Delta and United had seen positive cash generation in March for the first time in a year, American would have been cash positive in the month had it used the same definition of the term as its peers, and Southwest was cash positive to the tune of $4m a day after including advance bookings and working capital changes.

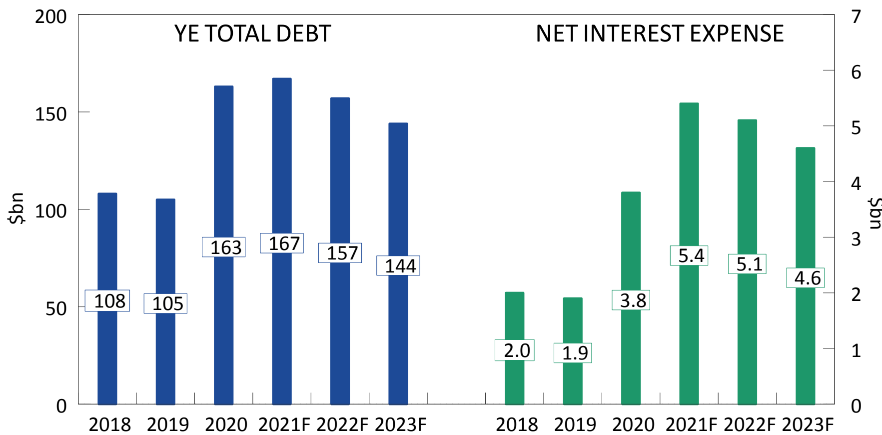
United was the most blatant in its announcement using as a subtitle the phrase "rebounding traffic is driving clear path to profit", while "with current domestic leisure bookings 85% recovered to 2019 levels" Delta's CEO Ed Bastian stated that "if the recovery trends hold, we expect positive cash generation for the June quarter and see a path to return to profitability in the September quarter", and is so encouraged that from the beginning of May Delta will resume selling the middle seat on its aircraft.

There is still a long way to go to reach equilibrium, and some major elements are missing from the equation. All four of the country's largest airlines rely on business traffic, and business travel is noticeable by its absence. Southwest mentioned that corporate managed travel revenues in March were still 85% down from 2019 levels, highlighting that

FEDERAL GOVERNMENT SUPPORT (US$m)

	CARES Act Loan Facility	Payroll support #1	Payroll support #2	10 Year Loan notes	Warrants (m)	Exercise price ($)
American	7,500	5,983	3,550	2,800	19.83	13.42
Delta		5,594	3,290	2,605	8.84	28.01
United	7,491	5,102	3,001	2,371	6.50	34.65
Southwest		3,354	1,986	1,542	3.73	39.24
Alaska	1,928	1,021	613	442	1.15	36.07
Jetblue	1,948	963	580	403	3.57	10.66
Skywest	725	451	268	156	0.47	30.91
Spirit		344	212	107	0.62	15.80
Hawaiian	622	301	193	88	0.62	12.91
Frontier	574	211	161	52	0.02	274.87
Republic	58	212	130	43	0.01	415.00

Source: US Department of the Treasury



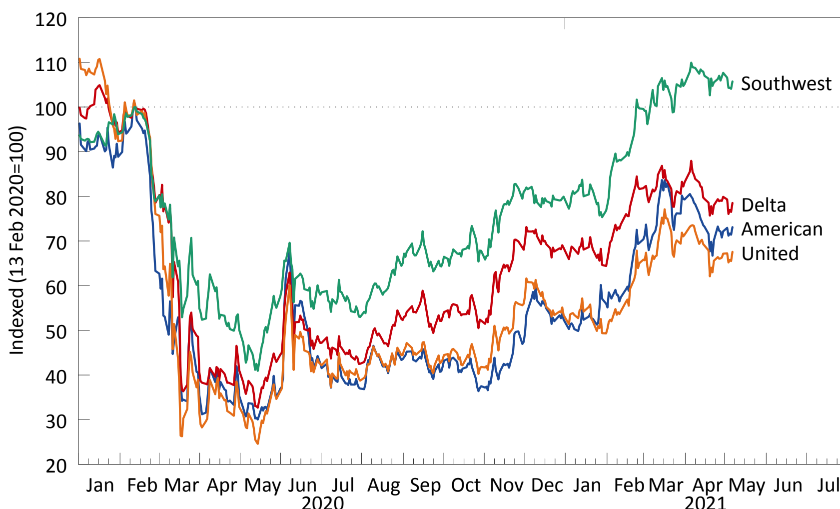
the lack of the late booking market inherent in business travel also plays havoc with the traditional yield management programmes. United's CEO Scott Kirby pointed out that, normally, roughly one third of United's business is domestic leisure and VFR, one third domestic business traffic and one third international long haul — and that the latter two segments were still more than 80% below pre-pandemic levels.

An unanswerable question is quite how much the events of the last year, and the explosion in the use of remote working and online video conferencing, will have removed the need for business travel. In its forecast at the start of the year the Global Business Travel Association (GBTA) predicted that global business travel spend, having possibly halved in 2020, would recover slowly over the next four years almost enough to reach the $1.4tn spent in 2019 (see chart on the preceding page). But it estimated that by 2024 business travel spending in the US would still be 25% below 2019 levels (and not even reach the nominal values of 20 years ago). Then in a recent survey the GBTA suggested that 60% of respondents expect to resume business travel in the third and fourth quarters of this year.

United's Scott Kirby waxed sanguine on the subject saying: "when you start to see people in office buildings in downtown Manhattan and it's hard to get a table at lunch, you'll know the business travel is probably back". But for the moment, according to Google's community mobility reports, workplace activity in the US remains consistently at a level 25% below pre-pandemic levels as it has for the past six months.

The three major network carriers also rely heavily on long-haul international traffic (Southwest has a few medium-haul international routes — mainly to beach resorts in the Caribbean and Central America — and says it tends not to like the complications of selling into markets with different languages or strange currencies). Canada, normally the largest international market, is essentially closed, as is the Pacific, while the Atlantic is running with demand 90% below pre-pandemic levels.

Scott Kirby again: "International demand is going to be entirely contingent on when borders open. We took over 3,000 bookings yesterday for our new services that we launched to Greece, Iceland and Croatia, if the US-UK opens up, I think you're going to have a hard time finding a hotel room in the UK because there's going to be so many people wanting to go.



But international borders aren't going to all reopen immediately. And my guess is that happens sometime next year."

There is comfort to be had from the first signs of a resumption of demand. But the industry is likely to be a very different beast as it does recover. A direct consequence of the desperate search for liquidity in the last year has been a massive increase in debt. As the chart on the preceding page shows, total year end debt increased by 60% or nearly $60bn in 2020, while net interest payments doubled to $3.8bn.

The debt issuance has continued. In March, American raised a record $10bn through the debt and bond markets at a blended interest rate of 5.6% (half what it to pay this time a year ago). It was in part secured on the company's AAdvantage frequent flyer programme, and in doing so was able to follow Delta and United in pursuading investors that there is value in the FFP. (For an analysis of the merits of banking on the frequent flyer programmes see *Aviation Strategy* Jul/Aug 2020). It will use part of the proceeds to repay the small amount it had borrowed under the expensive CARES Act loan facility — it had only drawn $500m of the $7.9bn facility granted (and itself backed by the FFP as collateral).

In April, United raised another $9bn in debt and loans — having already put its MileagePlus programme into hock, the loans were backed by its slots, gates and route rights — in part to repay the $520m it had drawn under its $7.5bn CARES act facility.

In the results meetings each airline emphasised that it would be concentrating almost exclusively through the recovery in the next few years on deleveraging balance sheets. The five years preceding the pandemic was a period of high profitability for healthy airlines and good returns for shareholders. It could be that the next will be a lustrum for zombies.

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ULCCs – Allegiant, Frontier and Spirit: the appeal of Point-to-Point

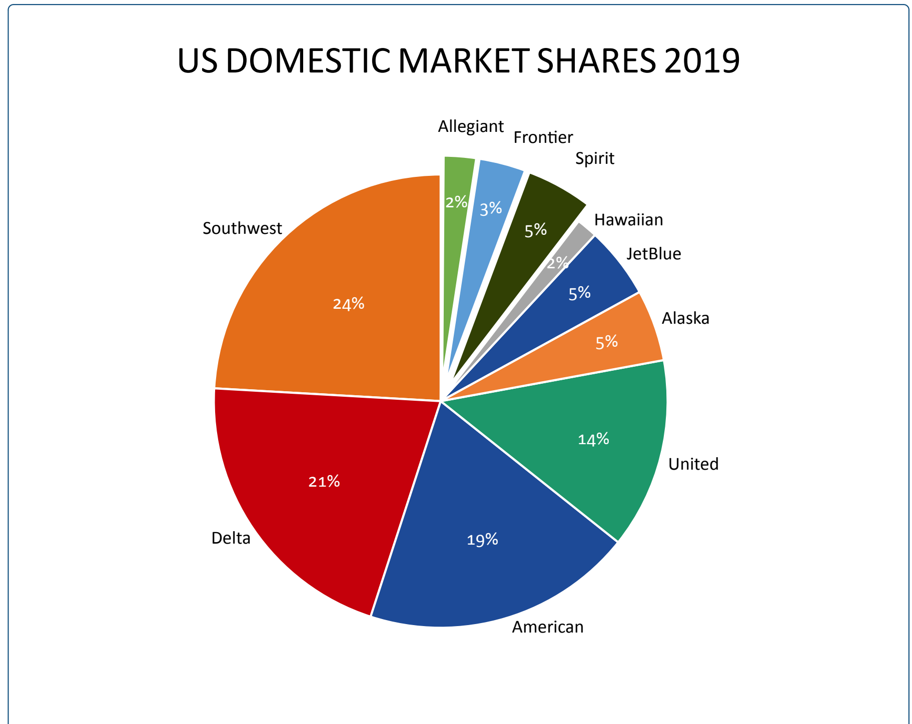
THE LAST cyclical crisis in the aviation industry — the 2008 Global Financial Crisis — paved the way for consolidation in the USA. By the end of 2019 the top four airlines — Southwest, Delta, American and United — between them controlled 78% of the domestic market. But this very consolidation allowed for the entry and growth of the ultra-low cost carrier (ULCC) business models, and in the year before the coronavirus pandemic hit, three such airlines — Spirit, Frontier and Allegiant — had built a combined share of the market of 10%, more than double that of five years earlier.

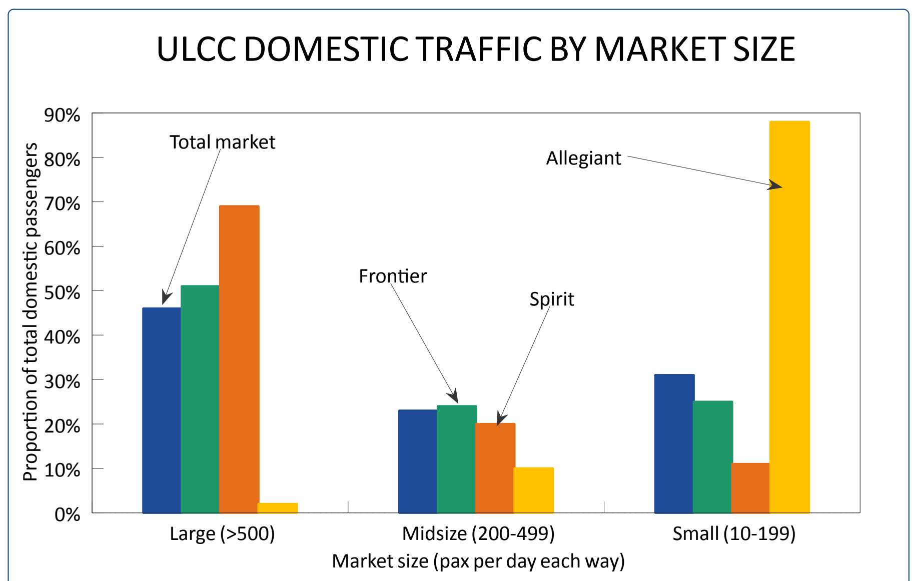
The low cost airline model, as it spread through Europe and the Far East from the noughties, was primariy based on the KISS principles ("Keep It Simple *Stupid*") developed by Southwest from the 1970s: direct point-to-point flights, secondary airports, single aircraft type, single fare class. The concept was designed to maximise aircraft and crew scheduling efficiency minimise cost and provide the lowest fares in what is essentially a commodity market.

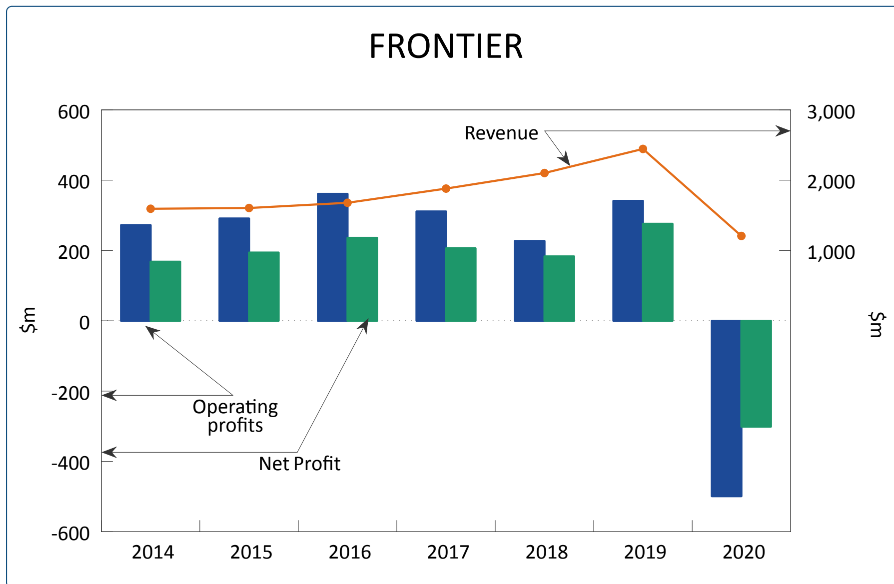
As time has gone on, there has been blurring at the edges with some LCCs exhibiting some of the characteristics of the network legacy carriers, such as intra-line connections and premium fare classes. Two of the top ten passenger airlines in the USA identify themselves as low cost carriers: Southwest and Jetblue; and three as ULCC.

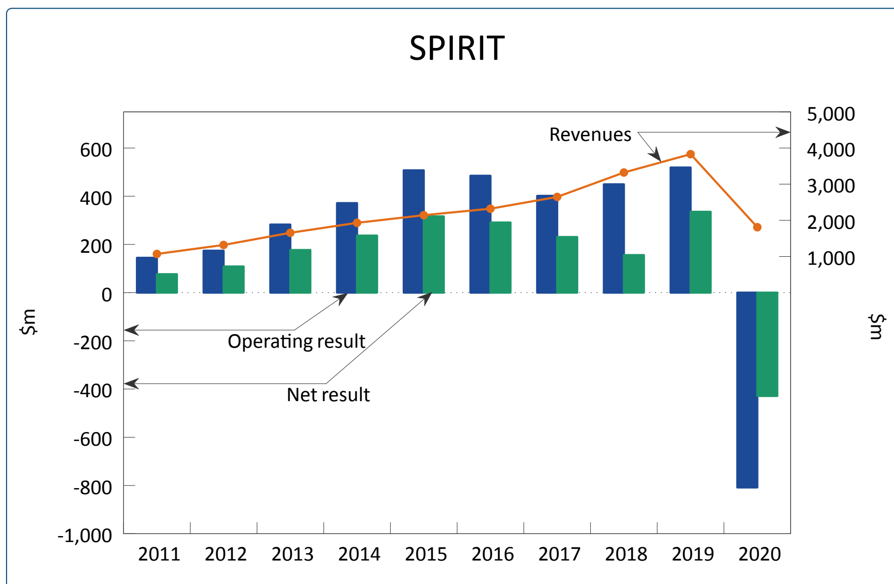
The ultra-low cost business model developed by Ryanair in Europe took this a stage further: a focus on increased aircraft utilisation, increased seat density and the unbundling of revenue sources aside from ticket prices with multiple products and services offered for additional cost. It was also based on a high rate of growth to develop incremental capacity at reducing marginal costs, combined with an obsessive command over all costs.

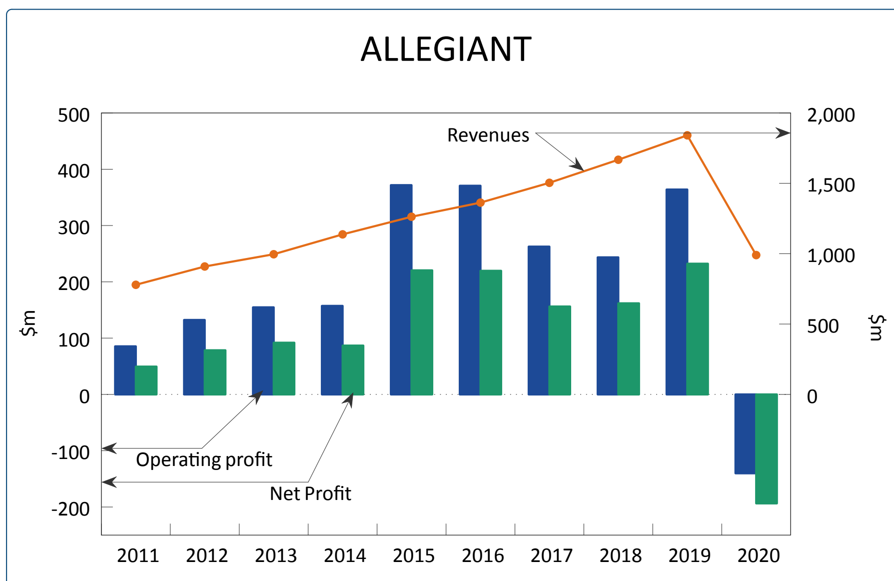
Looking for a moment at the history of the sector's development, the ULCC model had gained little head-











way in the US market in comparison with Europe and Asia — but then this was partly because of Southwest's significant market presence.

Spirit and Frontier both evolved from the same stable, Bill Franke's Indigo Partners: a serial ULCC incubator with current investments in Wizz Air in Europe, Volaris in Mexico and JetSMART in Chile. Having established Spirit as a ULCC in 2006, Indigo sold out to acquire and transform Frontier in 2014. Both exhibit the same ULCC characteristics, high utilisation, modern aircraft fleet (of A320s), a large order book of aircraft and high growth ambitions.

Allegiant follows a somewhat different model. Based on a fleet of mid-life or older equipment it follows a relatively low utilisation but highly seasonal model — accepting that there is no point in flying on a wet Tuesday in February when none of its leisure oriented passengers want to travel. Many of its routes are from small airports and operate on a less-than-daily basis.

In contrast to Spirit, Frontier has positioned itself a little closer to the Allegiant model: many routes operated on a relatively infrequent basis, and a significant network presence outside of the large metropolitan areas.

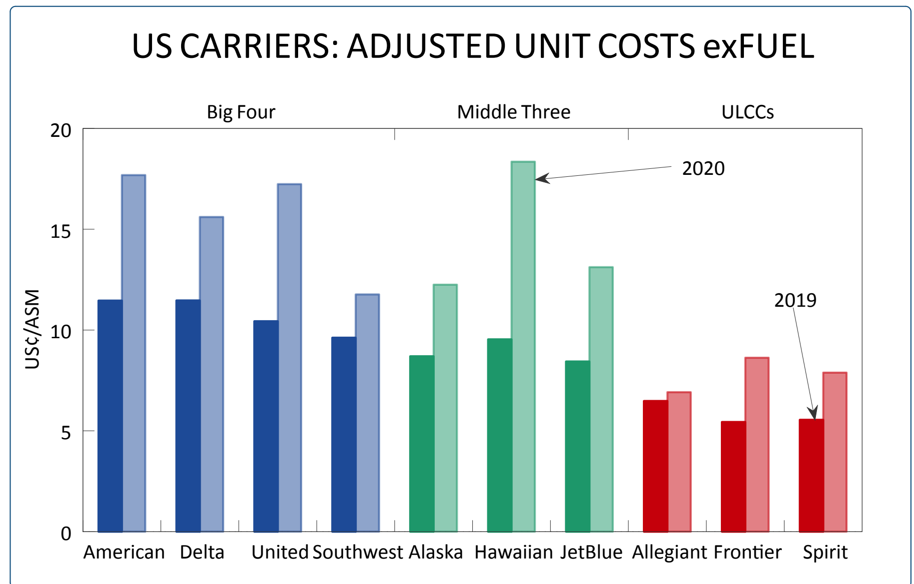
The three have been strongly profitable since inception (in Frontier's case since its rebirth as a ULCC in 2014). Allegiant in the five years before the pandemic averaged an operating margin of 22% and a net margin of 13% while revenues had grown by an average of 10% a year to $1.8bn (and this achieved in a period it had transited from MD80s to A320 family aircraft).

Frontier produced an average 16% operating margin and 11% at the net level increasing revenues by an

annual average 9% over the period to $2.5bn.

Spirit over the same period had grown its top line by a compound 15% per annum to $3.8bn while averaging operating margins of 17% and net margins of 10%.

And the three of the carriers are definitely ultra low cost. As the graph on the right shows, in 2019 their stage-length adjusted unit costs excluding fuel (CASMex) hovered round the 5.5¢/ASM mark (Allegiant higher at 6.5¢) — on average half that of the network legacy majors and 40% below those of the LCC paragon Southwest. (The 2020 figures are possibly irrelevant being heavily distorted by the effects of the disruption caused by the pandemic travel restrictions, although it is interesting to note that Allegiant only seems to have incurred a modest 7% increase in CASMex in 2020 compared with an average 50% increase for the rest of the industry.)



Covid-19 impact

The three ULCCs did not escape damage from the effective closure of travel during 2020, but the damage was limited in comparison with their larger peers. Between the three total net losses for 2020 totalled $923m — but this is equates to only 2% of the US industry's losses of $45.4bn in the period.

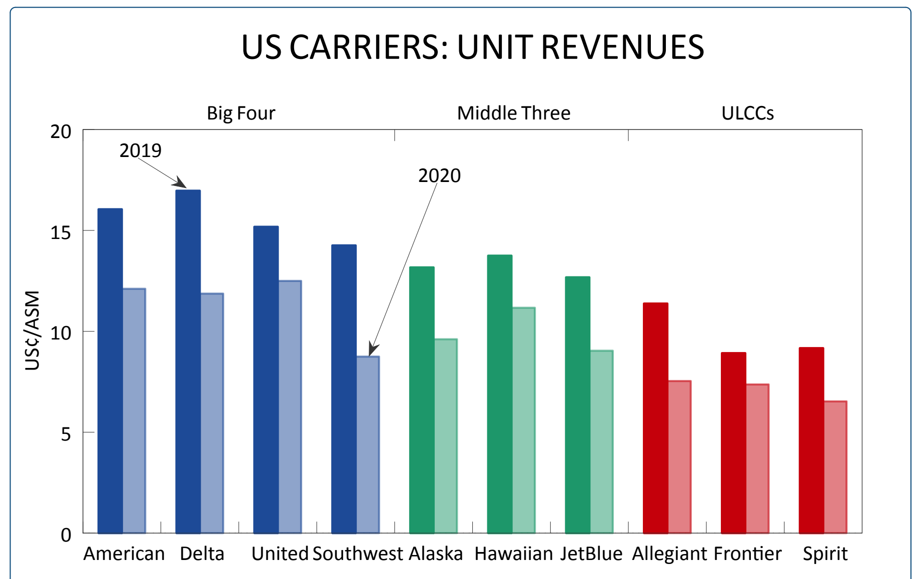
They each saw revenues down by around 50% from 2019 levels, somewhat less than the 63% decline for the industry as a whole: Frontier and Spirit reported adjusted operating loss margins of 41%-45%, Allegiant only 14%. They reported adjusted net loss margins of 20%-25%.

The three ULCCs all took part in the federal payroll support programmes (PSP) — with everybody else in the industry benefitting from the funds, it would have been churlish to refuse the handouts — but only Frontier applied for, and was granted, a loan facility under the CARES Act; and it had only drawn $150m of the $574m available at the end of December.

Balance sheets deteriorated (see table on the next page). But they had started the year 2020 in reasonable health. Each survived the year with positive equity and gearing levels, while elevated, at not too disturbing levels.

Frontier and Spirit both suffered severe cash outflows (see table on the facing page). In 2020 Spirit's cash from operations saw a deficit of $225m reversing the prior year healthy inflows of $551m. Frontier saw $557m go out the door. Allegiant, perhaps showing the resilience of its highly flexible low utilisation model only experienced a halving of operational cash flows to $235m.

Capex was highly restrained at both Allegiant and Frontier; but Spirit maintained its predelivery payments on its aircraft order book and continued to take new deliveries. Perhaps because of this strategic decision, it



ULCC BALANCE SHEETS

	Allegiant		Frontier		Spirit	
$m	2020	2019	2020	2019	2020	2019
Cash†	703	473	378	768	1,967	1,084
Long term debt‡	(1,442)	(1,249)	(247)	(95)	(3,067)	(1,960)
Short term debt§	(232)	(176)	(517)	(537)	(518)	(380)
Net cash (debt)	(971)	(952)	(386)	136	(1,617)	(1,256)
Net Assets	699	868	310	542	2,250	2,261
Net debt / Shareholders funds	1.39	1.10	1.25	-0.25	0.72	0.56

Notes: † includes short-term investments;‡excludes capitalised operating leases; § includes operating leases

raised $1.3bn in long term debt and over $350m in new equity, to maintain its liquidity.

The $150m increase in debt at Frontier, not too dissimilar from prior year figures, equated to its drawdown from the Treasury facility and the implied debts from the PSP. But this left it with a weak cash position at the end of the year. Subsequent to the year end it revived its IPO plans delayed from 2017, successfully raised $270m through the sale of 15m new shares (Indigo Partners raising a similar amount from the sale of part of its holding) valuing the company at $4bn; and, demonstrating superlative chutzpah, initiated a new quote on the NASDAQ exhange using the ticker ULCC.

Allegiant's CEO, Maurice Gallagher, proudly boasted at the 2020 full year and Q1 2021 results announcements, that Allegiant alone in the industry through this crisis had neither bloated its balance sheet by taking on excessive debt nor had to resort to shareholders to introduce new equity. Indeed, he stated that its cash and debt position was better than it had been before the pandemic. But then the day after the Q1 results he announced an issuance of 1.5m new shares to raise $340m, taking advantage of the all-time high rating of its shares on Wall Street. In early March the share price had touched $250, 50% above the level in February 2020 just before the crisis hit: the only other airline to have seen its equity rise above prepandemic levels is Southwest, and that by 5%.

Growth plans unabated

The three ULCCs have each expect to be able to recover profitability and be the first in the industry to return to normality: the recovery to be fuelled by domestic leisure, VFR and short-haul national park and beach seeking holiday-makers. And even if expecting an increase in competitive pressures from the major network carriers, they have an advantage, to quote Maurice Gallagher, in providing direct non-stop flights to wilderness.

As such medium term growth plans remain much in place.

Frontier has 156 aircraft on order including 89 A320neos and 67 A321neos (and it has the option to convert 18 of the A320s to A321XLRs). (This was part of a mas-

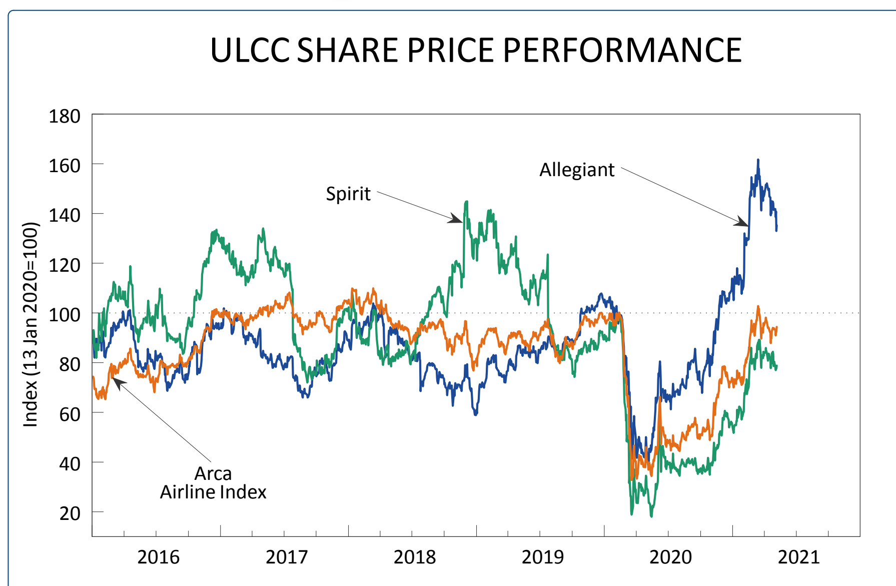
ULCC CASH FLOWS

	Allegiant		Frontier		Spirit	
	2020	2019	2020	2019	2020	2019
Cash flow from operations	235	442	(557)	171	(225)	551
Capex	(194)	(507)	11	(62)	(553)	(455)
Debt raised	203	136	157	123	1,296	(120)
Equity changes†	(45)	(64)		(159)	367	(5)
Change in cash‡	199	7	(389)	73	855	(30)
Year end cash‡	703	473	378	768	1,967	1,084

Notes: † Equity issued less dividends and share buybacks; ‡ includes short term investments

sive order with Airbus — its largest single aircraft order agreement — orchestrated by Indigo Partners in 2017 for 430 A320 family aircraft on behalf of its ULCCs Frontier, Wizz Air, JetSMART and Volaris.) Originally planned for delivery by 2026, Frontier last year negotiated a deferred delivery schedule out to 2028 and currently plans to take 13-14 aircraft a year in the next two years before ramping up to 20 aircraft a year — suggesting a medium term growth rate of around 10% a year.

Spirit at the end of 2019 had signed an order with Airbus for 100 A320 family aircraft plus options for upto a further 50 for delivery by 2027 (of which it has confirmed 27). It also has ten A320s due into its fleet in 2021 (of the 16 planned for delivery) from operating lessors. Its medium term fleet plan suggest a total complement of 190 aircraft by end 2022 up from the 158 in 2020.



Allegiant only bought 13 of its 100 strong A320 family fleet new direct from the manufacturer. Typically though this was an opportunistic deal in 2016 for end-of-line A320ceos as Airbus transitioned to production of the new engine variant, and they were delivered in 2017 and 2018. It has no aircraft on order. However, it has taken advantage of the availability of equipment and the weakness in demand to pick up extra lift very cheaply: in the first quarter it paid cash for three used 9-year old A320s for an average $16.5m each all in (and noted that it has been able to pick up spare parts for half the usual price). The company's current guidance points to it having 108 aircraft in its fleet by year end up from 98 at the end of 2020 (although the fleet databases currently show it having 111 tails on its books).

Viewing the events of 2020 as "taking a year off" from its long term growth plans Allegiant noted in the Q1 results that it has "never been more excited about the growth opportunities in 2021 and beyond", and that it intends to grow the airline by the end of 2024 to "north of 145 planes".

The US ULCCs are no longer a niche sector, and are showing that there is a value to point-to-point services that go beyond price. But this does not necessarily signal a cosmic shift in the shape of the US domestic industry.

ULCC FLEET PROFILES

	In service	Avg Age	Orders	Fleet plan end 2021	Fleet plan end 2022
Allegiant					
A319	35	15.7		35	
A320ceo	65	14.0		73	
Total	**100**	**14.6**		**108**	
Frontier					
A319	4	16.2		4	4
A320ceo	19	8.3		19	19
A320neo	60	2.4	89	73	82
A321	21	4.4	67	21	26
Total	**104**	**4.4**	**156**	**117**	**131**
Spirit					
A319	31	14.5	41	31	31
A320ceo	64	6.5		64	64
A320neo	33	1.9	65	48	65
A321	30	4.2	20	30	30
Total	**158**	**6.7**	**126**	**173**	**190**

Lessors in the post-pandemic world

RESILIENCE was the key word for the CEOs of the operating lessors, as they recounted how their companies have been impacted by the Covid-19 shock, through airline bankruptcies, lease defaults and deferrals and sharp falls in asset values. One might have expected these tribulations to have depressed the lessors' market values, but investors appear to have regained full confidence in the aircraft operating business.

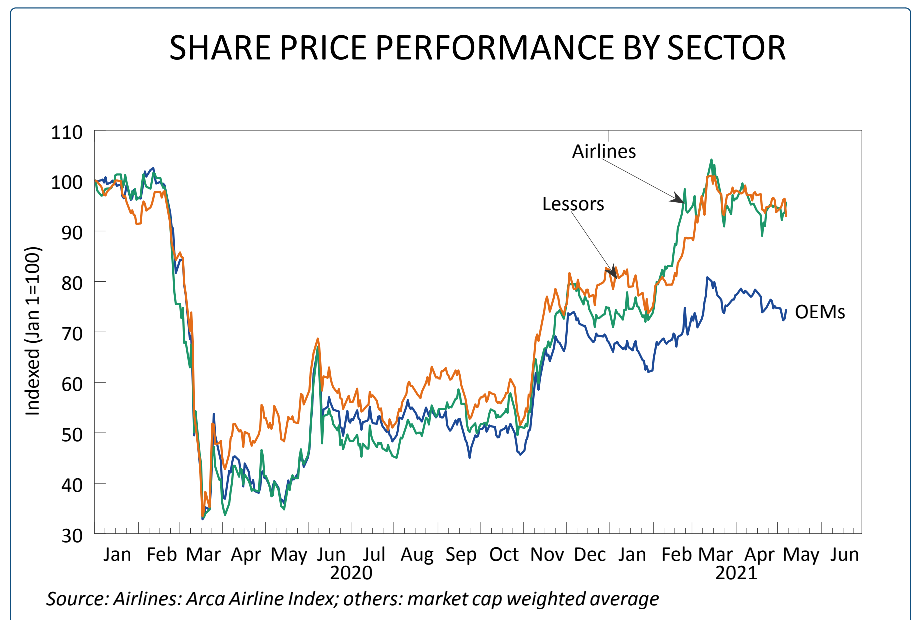
Share prices of quoted lessors have rebounded from the lows of the early months of the pandemic and, in the cases of AerCap and ALC, have touched five-year highs while BOC Aviation claimed early this year to have achieved the highest market capitalisation in the global aircraft leasing industry (see charts). Confidence in the sector goes beyond the post-pandemic euphoria that has driven airline share prices; there is a feeling that the restructuring of the aviation industry will boost the leasing sector.

The restructuring involves an increased role for the lessors as capital providers and ownership of the majority of the global fleet. Also there may be M&A activity within the sector, led by the AerCap/GECAS merger (see following article for more detailed review) and Carlyle's purchase of Fly Leasing, the 84 aircraft portfolio quoted on the NYSE, partly owned and maaged by BBAM.

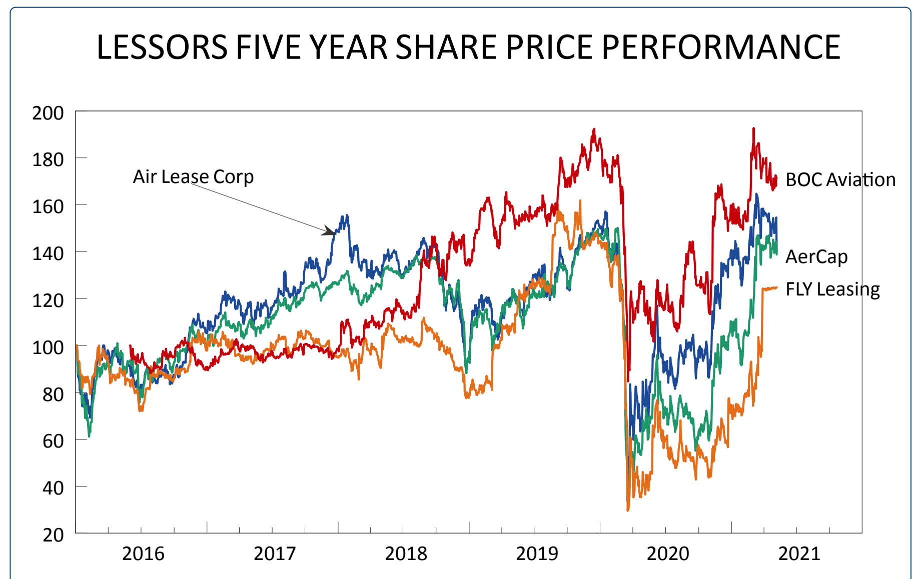
Breaking even?

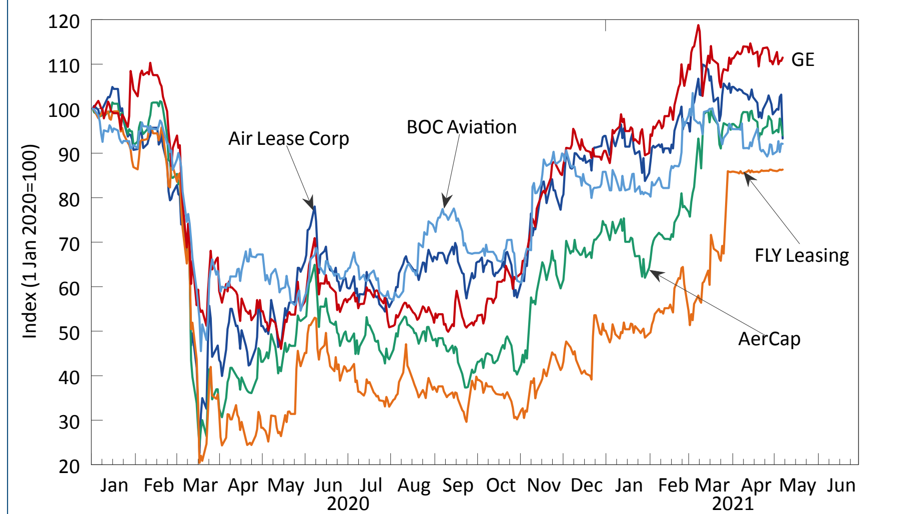
However, some financial reality: looking at the sample of results for 2020 (see table on the next page), lessors' revenues were down just 11% on 2019 but profits disappeared, with 2019's net margin of 26.6% turning into a loss of 1.7%. While this was a much better performance than that of the airlines, the full impact on the lessors from Covid-19 may not be fully reflected in the accounts for another one or two years. Like banks, the significance of leasing company accounts may lie not on the figures on the pages but in the assumptions behind them.

All the lessors have reported that most of their airline clients



Source: Airlines: Arca Airline Index; others: market cap weighted average





have requested some form of lease payment relief, and this has been granted through deferrals and/or lease extensions. Lessors generally account for payment deferrals by treating them as a loan from the lessor to the airline, placing the unpaid rentals on the balance sheet as an asset which is amortised as the airline resumes payment of the arrears. The rental deferrals plus accumulated interest are recorded as revenue for the period in which they are due, and so the P&L account is not damaged in the short-run, and will not be as long as the deferred rentals are paid by the airlines.

The good news is that the lessors generally have reported that deferrals have been kept under control. Airlines have greatly reduced their request for deferrals and most arrears seem to be being paid back when due. This has alleviated a major worry of last year — that there would be a cascade of defaults — and largely reflects the state aid that has been pumped into the airline industry.

Still, there are the problem cases, identified when the lessor switches from accrual accounting to cash accounting. Cash accounting is employed when the airline cannot be relied on to make contracted payments and the security deposits have been drawn down, or when the airline is put into Chapter 11 or some other form of bankruptcy restructuring. In the first quarter of this year the percentages of fleet net book value that had been switched to cash accounting were, for example, 15% at AerCap, 10% at Avolon and 7% at Air Lease Corp (ALC). This is one of the ratios that the credit rating agencies monitor closely.

The upside to this situation is that if the airline recovers financially or makes a successful exit from bankruptcy protection the lessor may receive cash lump sums that go straight into revenue with no costs attached. The downside is that cash accounting may presage impairment charges on the value of the affected aircraft.

Impairment charges can have a major impact on the reported results of the lessors. For instance, Avolon's net loss of $(36.6)m last year included impairment charges of $106.2m. Fly Leasing's net loss of $(67.4)m was largely the result of impairment charges of $115m, including a remarkable $106m on two 7-year-old A330-300s. These charges warn of impending problems but are not current cash costs. Taking an optimistic view, there is always the possibility than the impairment loss will not materialise in full and part of the loss can be written back into future P&Ls, if the market for second-hand aircraft turns up.

The reality, however, is that the leasing industry is nervous about asset values — no one can be sure of the current let alone future values of commercial aircraft because of the unprecedented global supply/demand imbalance caused by

LESSOR FINANCIALS 2020 and 2019 (US$m)

	2020			2019		
	Revenues	**Net Result**	**Margin**	**Revenues**	**Net Result**	**Margin**
GECAS	3,947	(786)	*-19.9%*	4,890	1,029	*21.0%*
AerCap	4,494	(299)	*-6.7%*	4,937	1,146	*23.2%*
Avolon	2,372	(36)	*-1.5%*	2,810	724	*25.8%*
ALC	2,015	692	*34.3%*	2,017	781	*38.7%*
BOC	2,054	510	*24.8%*	1,976	702	*35.5%*
Aircastle	832	(333)	*-40.0%*	809	157	*19.4%*
Fly Leasing	334	(67)	*-20.1%*	575	226	*39.3%*
CALC	323	35	*10.7%*	320	116	*36.4%*
Total	**16,371**	**(284)**	***-1.7%***	**18,334**	**4,881**	***26.6%***

the pandemic. During the last 20 years when leasing companies have grown strongly, aircraft values have been robust and predictable, proving remarkable resilient even in the Great Financial Crisis ten years ago.

To assess values, lessors and investors have to rely on the appraisal companies, specifically on estimates of actual market values as opposed to the fair market values (which are supposed to represent underlying values assuming a balanced market between buyers and sellers, a concept that doesn't work in 2021). The most realistic appraisers, such as AVAC, indicate a 20% fall in in new technology narrowbody values from pre-Covid levels, a 25%-plus fall for older narrowbodies, a 30% decline for new technology widebodies, and around 50% for older widebodies.

The nightmare is that there has been a permanent impairment in values, which means that balance sheets will have to fixed through write-downs. This has adverse implications for expected income from aircraft sales and, in some cases, for loan to value ratios.

As for current lease rates, the indications are for a steeper decline in rates than for asset values — for example, by 25-30% for new technology narrowbodies — but much depends on the circumstances of individual transactions.

Norwegian has been an interesting case. The airline went into bankruptcy protection (examinership under Irish law) last year which exposed its 787 lessors in particular. AerCap and BOC Aviation became majority owners of the distressed carrier, which then in January abandoned its long-haul operations to concentrate solely on intra-Europe, in the process returning 37 787s to Boeing or leasing companies. Former executives of Norwegian then set up Norse Atlantic Airways, a Norway-based transatlantic LHLCC with a planned fleet of 787s, scheduled to start up in late 2021 or early 2022. Nine of these 787s are to be leased from AerCap under an agreement signed in April.

Terms of the lease agreement are of course confidential, but Norse's investment message is that it will be able to achieve much lower costs than Norwegian largely because of the new leases rates, about 50% lower. AerCap is understandably reluctant to elaborate but commented that new leases typically have a variable element in the first year; in other words, a power by the hour agreement.

Rebalancing the aircraft market

The lessors have a major role to play in rebalancing the aircraft market and restoring solidity to values. According to Steven Udvar-Házy, chairman of ALC and industry guru, there is a surplus of about 4,000 jets that should be retired now, which could bring the market back into balance by 2023, hopefully. (Ed Greenslet of Airline Monitor in his 2021 global forecast comes up with a similar figure for the surplus, 4,400 units though sees a slower return to equilibrium). Udvar-Házy also observes that many of these aircraft would have been taken out of service pre-Covid if market conditions hadn't been so buoyant.

Assuming that Covid-19 has somewhat reduced the commercial life expectancies of 737 Classics and early NGs, the early A320 family, 757s, 767s, 747s, A330s, A340s and A380s, the "killing zone" might now be taken as over 15 years. Lessors have a fleet of about 1,700 units of 15-plus years so conceivably could themselves almost halve the surplus by retiring theses jets as they come off lease; whether they would have the financial incentive to do so, rather than sell on, is another matter.

Most lessors have modern fleets — ALC itself and the Chinese lessors have less than 5% of their fleet numbers in the scrapable category — but some lessors are exposed, notably ALC's merging rivals, AerCap with 30%, and GECAS with nearly 50%. The truly elderly lessors ae Boeing Capital Corp, lessor of last resort for the OEM with 90% over 15 years old, and two mid to late life specialists — Carlyle, pre the Fly Leasing purchase, with 65% of its fleet in this category and Castlelake with 43%. AerCap/GECAS plus these three specialists account for about three quarters of the lessors' scrapable fleet.

The lessors could also have a substantial degree over the delivery side of the aircraft market, particularly with regard to Boeing.

Even following the spate of MAX cancellations last year, over 300 aircraft, the lessors have over 700 737MAXes on firm order, which equates to over three years of production for Boeing at recovery rates. The MAX situation had an obvious negative impact on lessors, which have had to deal with parked aircraft and been unable to complete deals with airlines. On the other hand, the MAX situation alleviated some of the Covid-19 pressure as lessors were able to cancel or defer delivery without the normal financial penalties, because Boeing was unable to fulfil its contract by delivering within 12 months of the scheduled date. They still have this option for much of their backlog. There are production issues with the 787 as well, where lessors hold 100 delivery slots, equivalent to over a year of production.

At Airbus the lessors have taken a

controlling share of the A320/21 neo orderbook — 1,300 units, 22% of the total backlog or two and half years of production. This is the aircraft type that appears to be most suited to the post-Covid world, for both short- and long-haul.

Financial power

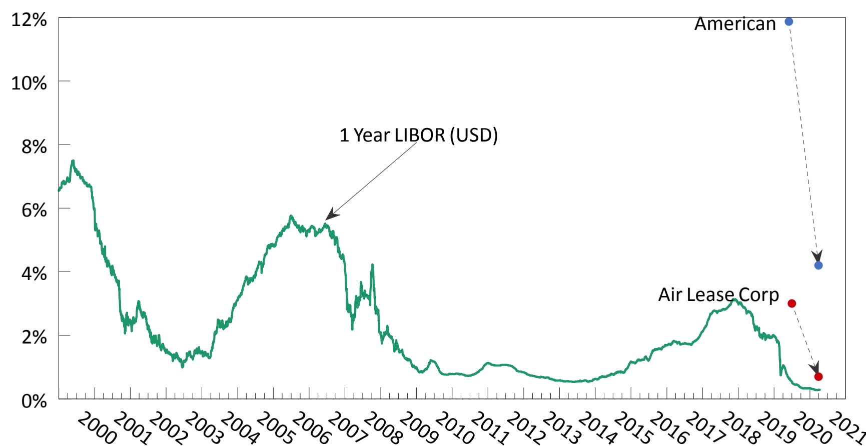
Indeed, the direct order totals underestimate the control of the lessors because the pandemic has altered the relative financial power of leasing companies relative to most airlines.

Firstly, airlines with liquidity problems, or with excessive debt, are opting to defer their own delivery positions and take capacity from the lessors in the interim, greatly reducing cashflow stress. Three-month security deposits on leased aircraft absorb a fraction of the capital required for PDPs.

The leading lessors say that they are in effect offering a fleet management product, finding solutions for both the airline and the OEM. For example, ALC concluded a complex transaction with Alaska Airlines last year which involved providing operating leases for 13 new 737-9s while buying 10 ex-Virgin America A320s from Alaska, which the lessor is currently placing with airlines such as Qanot Sharq Air, a start-up in Uzbekistan.

Secondly, as a result of the Covid pandemic, sale and leaseback transactions have become a critical source of funding for the airline industry. And as the airline industry emerges from the pandemic it will be necessary to repay state loans (which have escalating interest rates) or swap them for commercial loans. In such circumstances the state-aided airline, ie almost all the flag-carriers and Legacy network types, will have little choice but to use their unencumbered assets to raise cash through sale and leaseback.

Fundamentally, the cost of capital for leasing companies tends to be lower than that of most airlines. The graph below shows the trend for LIBOR one-year rates and also two examples of trends for debt in the crisis. ALC, probably the most efficient lessor, was able last year to raise $850m of unsecured funds at just over 3% pa; this year it succeeded in selling $750m of unsecured three-year notes at a remarkable 0.7% pa. American Airlines, the weakest of the US Legacies, was forced to price its $2.5bn junk bond issue at 12% pa last year; this year it succeeded in raising $2.5bn at 4.2% on loans backed by its frequent flyer programme, which is a reminder to lessors that airlines have other assets than aircraft to monetise.



Source: www.macrotrends.net, company filings.

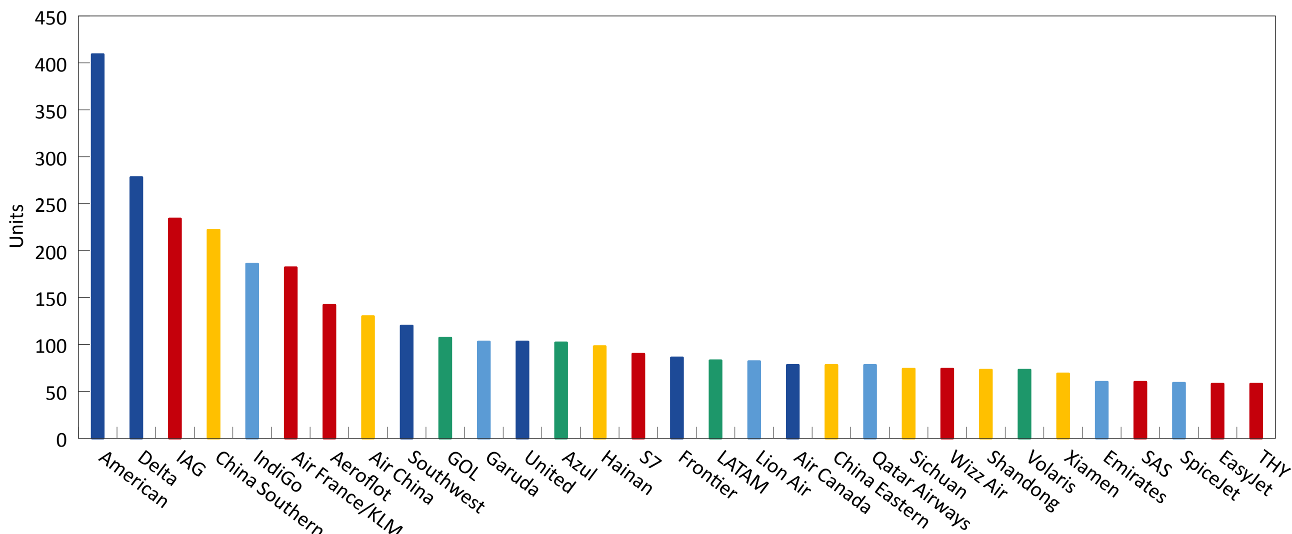
Will core rates such as LIBOR remain at historically low levels? The trillions of dollars, euros and renminbi being poured by governments into economies to support the post-pandemic recovery will probably translate into some increase inflation and hence interest rates. But the basic finances of the leasing model still look sound: a good quality lessor can raise funds at 3-4%pa but could achieve a return on assets in today's market of 7.5% (based on an estimated current price of $47.5m for a new A320neo and $300,000/month lease rate),

The lessees' perspective

The point where leasing companies own over half the global commercial fleet must be close (if difficult to measure exactly because of volatility of the aircraft market). In 2020 something like 55% of Airbus's deliveries went to lessors. This raises the question of where the limit to the separation of ownership and operation lies. Some commentators worry about whether dominance by the lessors would stifle innovation in developing new types, as lessors prefer ubiquitous standard-configuration aircraft that can be easily moved between airlines.

The graph on the next page gives a perspective on the lessees. The top 30 airlines account for about 42% of the operating lessors' fleet capacity while over 400 airlines account

TOP 30 OPERATING LESSEES: 42% OF TOTAL OPERATING LEASE FLEET



for the remainder. It is notable how broad the lessors' coverage is: those 30 airlines are located throughout the world, they include US Legacies (American is the biggest lessee), European network carriers, Asian flag-carriers, super-connectors and leading LCCs. There are a few exceptions: Ryanair doesn't like operating lessors (though Wizzair has 100% of its fleet on operating lease) and Lufthansa has not yet entered this group.

When the pandemic struck lessors made the argument to their investors and financiers that they did not depend on airline profitability: if airlines were state-owned or being supported by governments, that support funding will flow through to the lessors. That has undoubtedly been the case. Only some Latin American carriers — LATAM is the most important — have gone through Chapter11 bankruptcy restructurings, which have cut off rental payments.

As discussed above the state-aided airlines will have to rely on sale/leaseback for funding as they emerge from the protection of state aid. But the lessors will have to play a major role in supporting successful transitions, and this may mean constraints on lease rate increases.

China leasing enhanced

The pandemic has probably enhanced China's position in the operating leasing world. The first to experience Covid-19, China was also the first to recover. Chinese domestic flights (not passengers) were reported to be up 15% in the first quarter of 2021 compared to 2019.

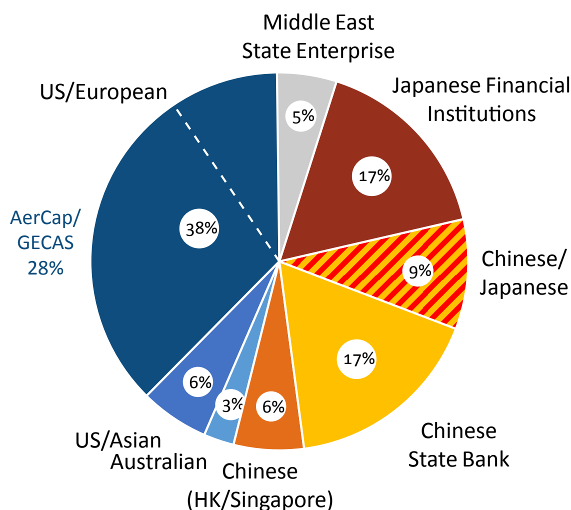
The state-owned lessors have ungrounded almost all their fleets and their financial statements scarcely mentioned deferrals. BOC Aviation, the leading Asian lessor, reported a net profit margin of 25% and retained it's A- investment grade credit rating. Its fleet is placed globally but two thirds of its lessees by value are based In the Belt and Road Initiative (BRI) countries. This is China's 21st century project to re-create the Silk Road across Asia and into the rest of the world. China's infrastructure spending on transport, power generation and manufacturing within the BRI project is estimated to be around $100bn a year.

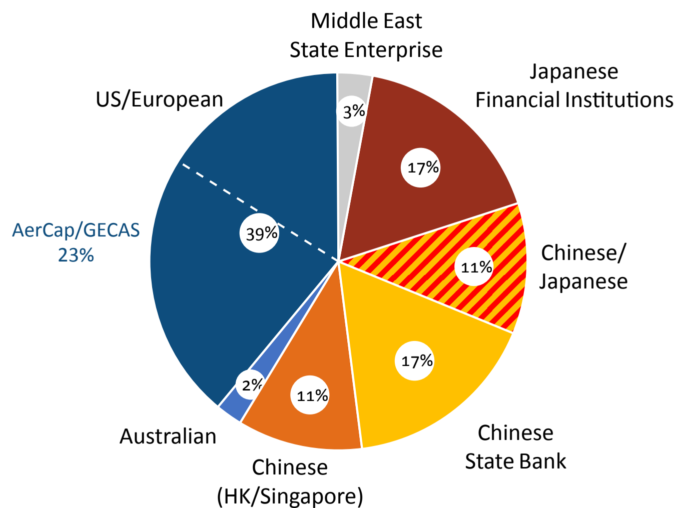
There is, however, also the filing for bankruptcy of various entities within the Hainan Group (see *Aviation Strategy*, January 2021). Shenzhen-based Bohai Leasing, which is 46% owned by HNA, in turn owns 70% of Avolon, which insists that it will not be affected by any changes of ownership that will emerge from the bankruptcy process. Avolon also has 11% of its fleet leased out to Hainan Airlines, which worries the credit agencies. Domhnal Slattery, CEO of Avolon, has a positive, probably accurate, view of Chinese aviation: "[HNA] airlines are integral to a fully functioning Chinese air transport sector … the airlines [will] ultimately be in a much stronger credit position following this reorganisation process".

Geopolitics

Finally, we have updated our snapshot of the effective control and ownership in the following pie charts on the following page which divide the mainstream lessors' fleets and

OWNERSHIP/CONTROL OF THE MAIN OPERATING LESSORS





US/European: *AirCap/GECAS, ALC, Carlyle/Fly Leasing;*
US/Asian: *BBAM;*
Australian: *MAF;*
Middle East state enterprise: *DAE, Alafco;*
Current fleet: 7,423 units; Firm orders: 2,433 units.

Japanese financial institution: *Orix, SMBC, Aircastle, ACG;*
Chinese/Japanese: *Avolon, AMCK;*
Chinese (HK, Singapore): *CALC, SC, Goshawk;*
Chinese state bank: *BoCom, CDB, BOC, ICBC*

firm orderbooks by geo-political zones (specialist lessors like Boeing Capital and Nordic Air are excluded). The analysis is based on aircraft numbers rather than value, which admittedly would be a better measurement.

Chinese state banks alone control 17% of the capacity with a further 15% owned by other Chinese-backed entities or in joint ownership with giant Japanese financial institutions — 32% in total. They have larger presence in the orderbook — 17% and 22%, or 39% in total.

US/European lessors control about 38% of the operating fleet and 39% of the orderbook. And within these totals the merged AerCap/GECAS entity will have 28% and 23%.

Given that geopolitics will prevent M&A activity between the US and the Chinese blocs of the aircraft leasing business, the AerCap/GECAS merger looks as if it could be a pre-emptive move, leaving minor targets for other lessors within the Western leasing world.

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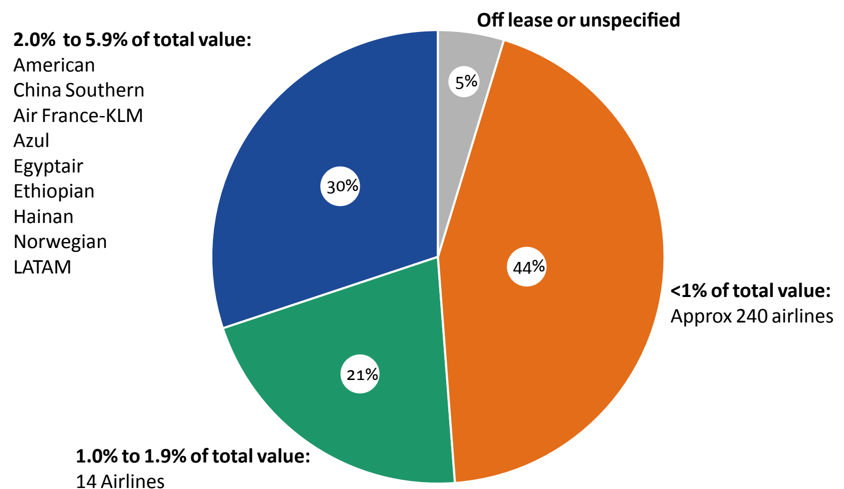
AerCap and GECAS merger: A good idea?

THE MACRO-TRENDS impacting the global leasing industry, covered in the previous article, suggest why the mega-merger between AerCap and GECAS might be a good idea. Here we review some of the specifics of the proposed merger.

Positioning an expanded company to take advantage of the almost certain enhancement of lessors' control of the global fleet is one rationale for the merger. The other is our more speculative argument that prospects of serious consolidation may be less than expected because of the geopolitical split between US and Chinese controlled lessors.

The terms of the transaction: AerCap will pay GE $24bn in cash. $1bn in bonds, and 111m new shares in AerCap (there are 127m currently trading at $58), which adds up to about $31bn. GE will hand over its aircraft leasing operation plus its Milestone helicopter leasing company and engine leasing businesses of GECAS, which means taking a book loss of $3bn on its balance sheet value of $34bn.

By aircraft units AerCap and GECAS are the number one and two aircraft lessors which, with about 2,100 aircraft, together will have a physical share of 20% of the operating leasing business, plus 550 aircraft on firm order. But Aengus Kelly, CEO of AerCap, has stated that the merger "is not about scale or getting bigger for the sake of it". It is presumably to enhance shareholder value. A target for the merged lessor might be to emulate the financial performance of ALC. In 2018 and 2019 AerCap and GECAS both reported average net profit margins of 22% while that of ALC was 36%.



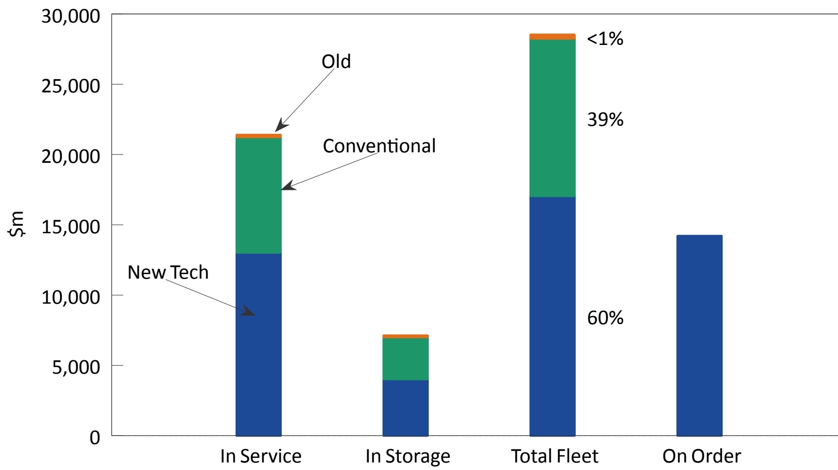
Execution risk in this case is regarded as low because AerCap has completed a series of successful takeovers, effected at low point in the aviation cycle. The major purchase was ILFC, which in 2014 had a much larger fleet than AerCap, from AIG, the US insurance giant which in the Great Financial Crisis was enmeshed by credit default swaps and collateralized debt obligations, and had to be bailed out by the US government. ILFC was rapidly integrated into AerCap in 2015 with no apparent operational or financial problems.

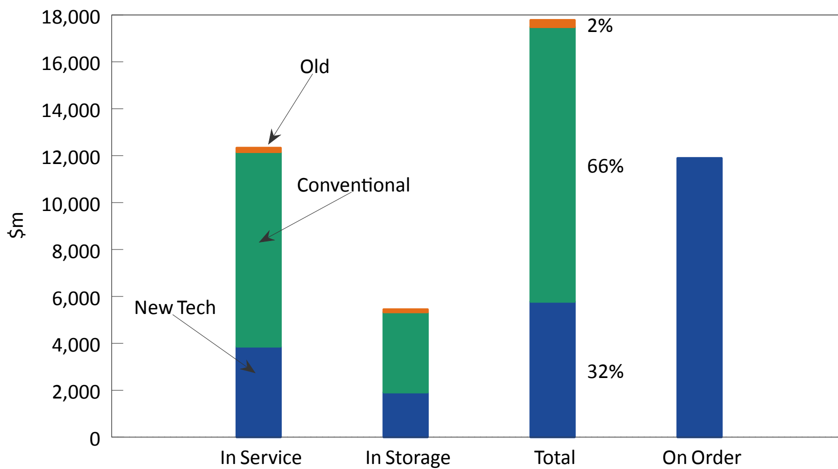
GE, as a result of the new AerCap share issue, will be a major shareholder in the merged lessor, owning 46%. There is a concern that GE's other aeroengine interests might not always be aligned with those of the new AerCap. However, GECAS was free to cancel orders for 69 undelivered 737 MAXes in 2020 despite the fact that GE's Aviation division is one half of CFM (the other half being Safran), which is the sole supplier of LEAP engines for the entire MAX fleet.

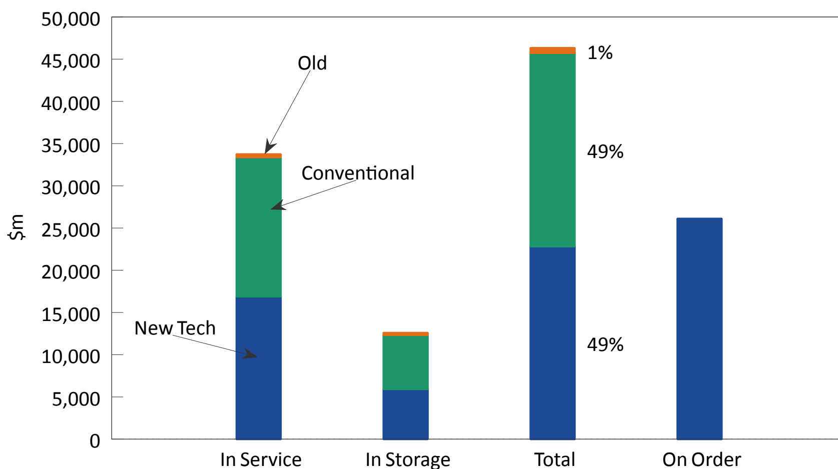
SGA (selling, general and administrative) expenses are only about 5-6% of total costs at lessors, but still there would appear to be scope for synergies in this area. GECAS has a larger footprint with 24 offices globally, while AerCap has nine offices, and both are integral parts of the Dublin aircraft financing scene.

Each lessor has about 160 airline lessees but only about 60 rent from both GECAS and AerCap, which suggests significant marketing potential. Placing aircraft that come off-lease with new clients might be easier.

In negotiations with the OEMs the combined company might have







increased clout, though price discounts will have more to do with the weakness of the manufacturing business in the foreseeable future. However, their existing backlogs which include about 140 MAXs and over 300 A320neo family aircraft plus 28 787s does give the combined entity a high degree of leverage because of the threat of cancelling or postponing deliveries that are running behind contracted schedules.

Merging will not reduce the combined lessor's cost of capital. Moody's and Fitch have reaffirmed AerCap's credit ratings at the lower end of investment investment grade (Baa3 and BBB-), but both add a short term negative outlook, based on uncertainties about the transaction, the overall aviation market and AerCap's need to refinance the $24bn loan it is taking out to complete the merger.

What is the underlying fleet values for the two lessors? Using fleet compositions and estimated market values at the end of last year, we estimate a current market value of GECAS fleet of $17.8bn and $28.7bn for AerCap. So the current value of the combined fleet would be around $46.5bn which compares to GE's book value of $20.9bn and AerCap's book value of $33.6bn, a total of $54.5bn. Both new and second-hand prices are very uncertain in this pandemic-induced downturn, but the implication is that the two lessors may be overvaluing their fleets by 17%. (In considering the $31bn purchase price for GECAS it should be noted that GECAS also puts a book value on its helicopter and engine leasing business of $7.3bn plus other assets which bring its total book value up to $34bn.)

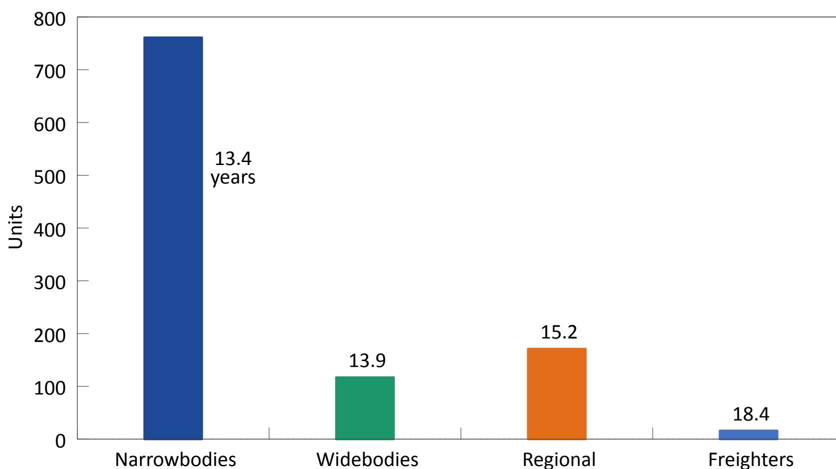
The structure of the combined fleet by estimated market value on broken out in the three graphs left. Post the merger less than 2% will be

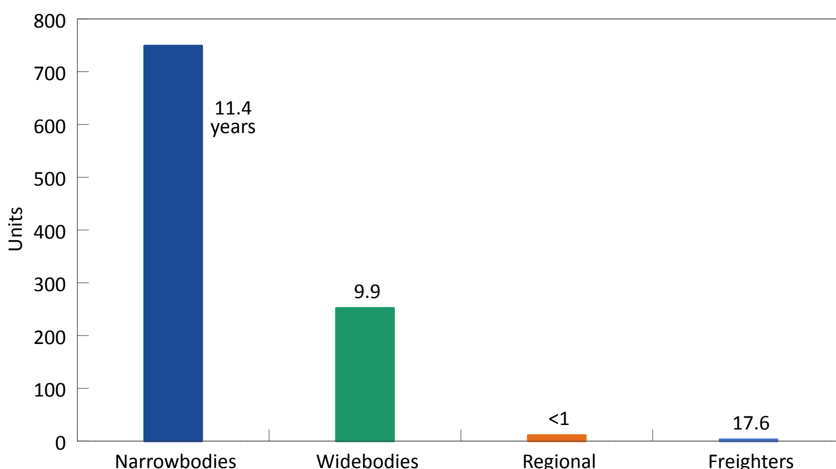
really Old Types (mostly 737 Classics), 49% Conventional (NGs, A320 ceos, A330s, RJs, etc) and 49% New Technology (MAXes A320 and A330 neos, etc). This is a downgrade from AerCap's existing structure with a 60% New Technology presence. AerCap has stated that the aim is to get to 75% New Technology by 2025, to be achieved mostly by new deliveries rather than an accelerated disposal programme.

Whether this will be possible is questionable, Looking at the age structure, both fleets, the narrowbodies in particular, are old in lessor terms. As noted in the previous article, 40% of the combined fleet is 15 years or over, in the scrapping zone given the need to rebalance the global aviation market and to meet the new ESG requirements.

Finally, the pie chart on page 17 shows combined fleets by lessee. There is clearly a highly diverse client base but 30% of the fleet value is accounted for by nine airlines, and there are some problematic cases there. Norwegian, Hainan and LATAM are in bankruptcy reorganisations; American is the weakest of the US Legacies but has secured liquidity through the recent FFP-backed bond issue; Air France is the weakest of the European network carriers but has the French government; Egyptair is financially stressed but seems to be getting guarantees from its national government.

Assuming that there are no significant antitrust or competition issues — there is unlikely to be — the transaction will go ahead but the combined entity will have to modernise its fleet and improve profitability to match the sector leaders — ALC or BOC Aviation. A risk for AerCap/GECAS is that these two lessors will expand more rapidly than expected by picking up distressed portfolios and packages of delivery slots from cancelled orders — probably a more cost-effective way to grow than through merging two companies.





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