



Airfreight in 2021: A Wild Ride

By Ti Research



INTRODUCTION

There have been wild fluctuations in the air freight market over the past twelve months. From being, according to IATA, the “Worst Year for Air Cargo Demand Since Performance Monitoring Began” to resembling a boom, and some of this at the same time, it is not simply a question of volume of demand but a structural change in the nature of the market.

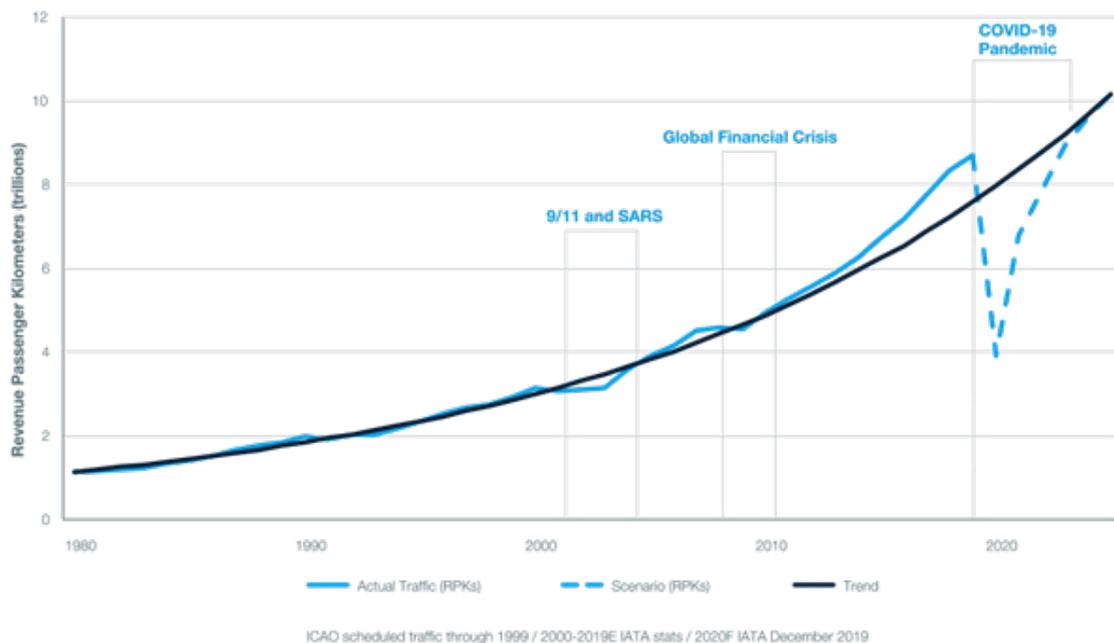
Forecasting the future of air freight is much more difficult now than in 2019. What is highly probable is that growth and market structure are likely to be quite different than that previously assumed. The volume and pattern of demand are changing rapidly but so is the supply-side. A reasonable description might be ‘a wild ride’.

The below chart is Boeing’s perception of the future of the airline sector, both passenger and cargo.

As can be seen, although the dotted-line shifts violently downwards in 2020, it recovers in 2021 and rapidly resumes through 2022 to the trajectory seen for the past half-century. However, the scale of the interruption is huge, not merely dwarfing the financial crisis of 2007-2010 but of a wholly different order. Although Boeing is attempting to emphasise the continuity and long-term stability of the air transport market, in fact this graph vividly illustrates the unprecedented nature of the COVID-19 crisis.

Is this reaction violent but temporary or does it have longer-term implications? Whatever the answer to those two questions, the crisis is of such magnitude that it cannot but have very significant implications in not just the short-term – say 1 year – but also the medium-term, the next 5 years. It is possible that the trajectory described in the Boeing diagram by the dark blue line may change its angle, marking the end of an era for airfreight.

Fig.1 Boeing Model for Long-term Growth Trends



Source: Boeing

MARKET CHARACTERISTICS

Charters

One of the characteristics of the past year has been the explosion in demand for charters. From March 2020 these were dominated by medical equipment consignments. It is known that these consignments were enormous, but they 'crossed-over' with the collapse in demand for other categories of freight and so it is difficult to use the traditional metrics to measure market developments.

Indeed, what happened might be described as a restructuring of the market rather than just the growth of one part of it. Normally, such types of cargo are moved by belly freight or indeed by sea container freight, however suddenly this was no longer available and so it had to shift onto chartered planes.

Anecdotal evidence strongly suggests that prices multiplied from March 2020 to the end of the year, with the World Health Organisation, for example, complaining about a fivefold increase in freight rates exiting the US. Frustratingly, firming this up, let alone quantifying it is difficult. Certainly, forwarders have seen their air cargo profits increase in double digit percentages despite modest falls in revenue – usually 2-5% year-on-year, something they coyly attribute to chartered services. However, extracting these numbers from their results is very difficult as their results are complicated by the collapse in other traffic.

Internet Retailing

Again, this powerful trend is a mix of temporary and secular change. It also has a non-linear relationship with airfreight.

Most e-retailing – and it is a good question how much – is handled through national or regional logistics systems. Inventory is held increasingly locally, with Amazon explicitly following a policy of holding a very high proportion of inventory within a region; for example, the north eastern states of

the US, or Scandinavia and feeding this through a network of increasingly local fulfilment centres. The implication of this is lower demand for air freight and a reliance on road freight for both trunking and 'last-mile'. However, Amazon is such a large user of airfreight that it has developed its own airfreight capability. This is clearly a service related issue in the US, with Amazon using airfreight to facilitate its 'Prime' marketing strategy without holding excessive stocks of 'slow moving' items at a local level.

The role of airfreight in e-retailing is also illustrated by DHL Express' market posture. Eschewing reliance on lower-priced services, DHL Express has focussed on 'Time Definite' express 'products', a type of service that is disproportionately exposed to 'Business-to-Consumer' services operating at an intercontinental level. In particular this service focusses on the movement of higher-value low-volume items with low sales frequency. This highlights that the role of airfreight at an international level is to support aspects of e-retail strategy, rather than be the primary mode for even medium-size and certainly larger retail operations. The form in which this takes is generally individual packages despatched to named customers, rather than bulk deliveries.

The impact of this on demand for airfreight is substantial but slightly hard to quantify, although one straightforward means might be to compare growth rates at conventional air cargo operations and those of Air Express – the impact on demand for freighters means that conventional air cargo providers have also seen a jump profits but not volumes. For example:

DHL Express in 2020:

- Volume Growth: 8.7%
- Profit Growth: up 35% to €2,751m
- EBIT Margin: 14.4% (previous year 11.9%)

Lufthansa Cargo in 2020:

- Volume Growth: -27%
- Profit Growth: up 6000% to €772m
- EBIT Margin: 29% (previous year 0%)

These are unusual results. What is worth noting is that in a year where Lufthansa cargo saw a fall in volumes of over a quarter, DHL Express saw its volumes rise by over 8%. It should be emphasised that DHL Express' core operations are international air express rather than ground movements. It specialises in 'time-definite' consignments which have a disproportionate exposure to e-retail activity. It might be suggested that although Lufthansa experienced a boom in its freighter operations that increased its profits, its cargo business overall experienced a severe slump, although admittedly this was due to much of its fleet being forcibly grounded. In contrast DHL Express saw organic sustainable growth.

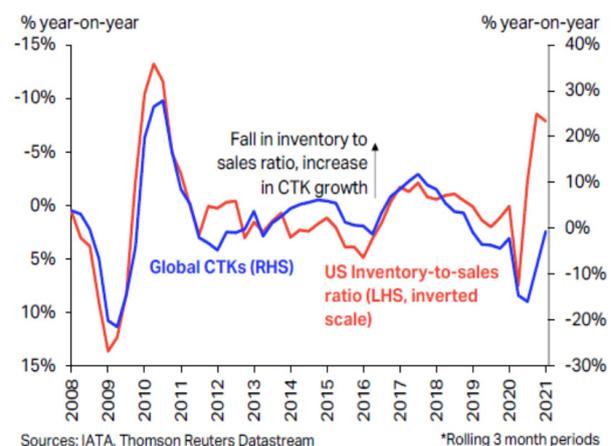
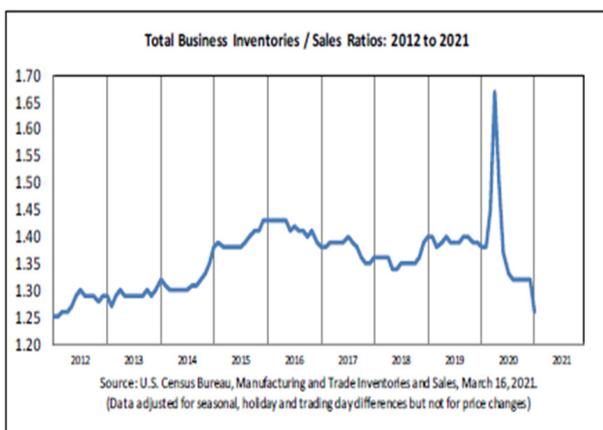
The Inventory Cycle

The wider inventory cycle is assumed to be critical for the dynamics of the airfreight sector. The relationship is not linear, as low inventory/high-demand conditions usually trigger

disproportionately high use of airfreight by supply chain managers wishing to avoid 'stock-outs' and looking to respond to demand quickly. What can be seen is that the first half of 2020 saw extreme conditions, with the US for example briefly approaching an inventory-to-sales ratio of 1.7 before crashing towards 1.25. This behaviour reflects the collapse in demand in March which triggered violent destocking followed by recovery that, even by the end of the year, was struggling to meet demand.

In the IATA/Thompson Reuters Datastream chart on the right, these numbers trigger a rise in airfreight activity measured in 'cargo tonne kilometres' (CTK), however this is restrained by what IATA calls "insufficient capacity and supply chain disruptions [that] mean the recovery is delayed". This is important as it comments on the weight of the restraints on the market at present, that interfere with its ability to respond to demand. This is a very important qualification as it means that forecasts on short-term market dynamics cannot assume growth driven by demand. Therefore, understanding the supply-side will be key to understanding market growth.

Fig.2 The Inventory Cycle



Source: IATA

The Supply-side

The supply-side in the whole of the air transport sector is in a state of unprecedented instability.

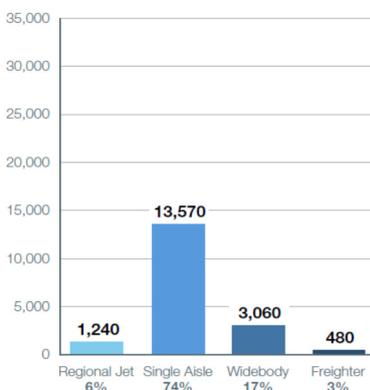
The 'benchmark' projections for fleet size are those made by Boeing in their 'Commercial Market Outlook'. Published at the end of 2020 this suggests

that:

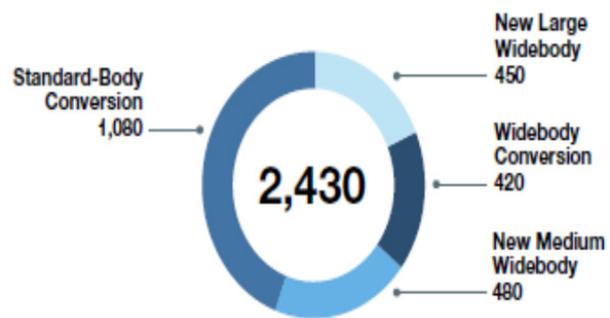
- Over next 20 years, there will be 43,110 new civil passenger jet aircraft of all types delivered
- 930 of these will be freighters
- This represents an annual fleet growth of 3.2%.

Fig.3 New Airplane Deliveries – 10-year

10-year forecast (2020-2029)
18,350 new airplane deliveries



Freighter fleet to grow nearly 60% by 2039



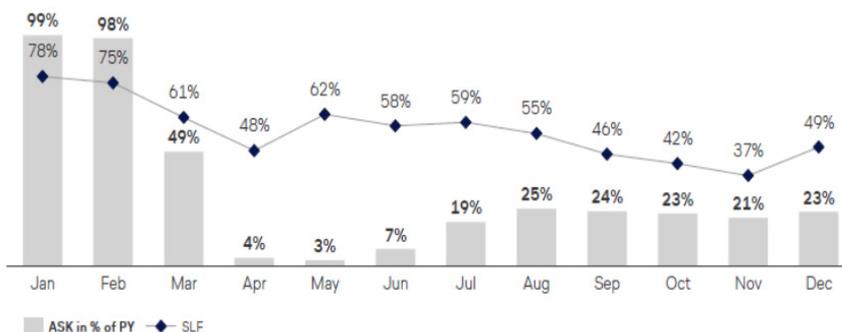
Source: Boeing

However, the present reality is that fleets have been transformed by the COVID-19 crisis both qualitatively as well quantitatively. In the case of Lufthansa for example, it can be seen that 'Actual

Seat Kilometres' (ASK) have fallen violently and indeed in April and May of 2020, fell to almost nothing. The implications for belly freight are obvious.

Fig.4 Lufthansa's Capacity Utilisation During 2020

Capacity (ASK) in 2020 in % of PY, seat load factors

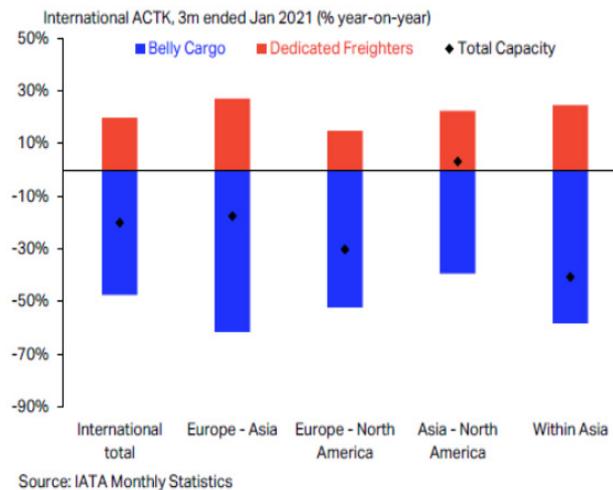


Source: Lufthansa

The result in the fall in the availability of belly freight has resulted in a shift to freighters. The problem is there is a limit to the number of freighters available. Some passenger aircraft have been converted into freighters, something which probably represents a substantial proportion of the increase in freighter capacity but for which there seems not to be clear

measurement. However, converting passenger aircraft into freighters – essentially using the passenger-space as space for cargo by taking the seats out is less than ideal. Passenger aircraft are not designed for easy loading or unloading. Therefore, the ability of the aircraft fleet to support continued demand for airfreight has been limited.

Fig.5 Capacity Available as Measured by Actual Cargo Tonne Kilometres



Source: IATA

Fig.6 Latest IATA Market Trend Data Jan 2021.

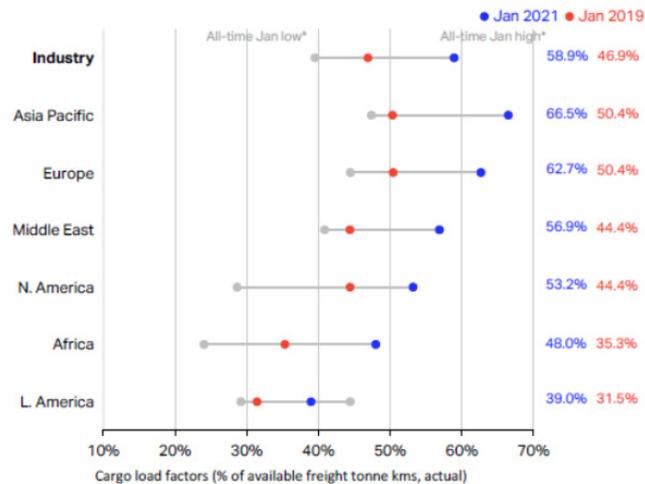
	Share of Global Jan-21	Cargo Tonne Kilometres	Actual Tonne Kilometres	Change in Cargo Load Factor	Cargo Load Factor
Total Market	100.00%	1.10%	-19.50%	12.00%	58.90%
Africa	2.10%	21.10%	-10.90%	12.70%	48.00%
Asia Pacific	32.80%	-6.80%	-29.40%	16.10%	66.50%
Europe	22.20%	-0.40%	-19.90%	12.2	62.70%
Latin America	2.40%	-14.20%	-30.70%	7.50%	39.00%
Middle East	13.10%	6.00%	-17.30%	12.50%	56.90%
North America	27.40%	11.70%	-6.80%	8.80%	53.20%

Source: IATA

Therefore, what we have is a confusing mix of short-term and long-term structural market change. Looking at the IATA numbers above it can be seen that actual tonne kilometres fell at the beginning of 2021 yet load factors leapt by 12% as compared to the same period last year. In principle this is

not exceptional as airlines might wish to restrict capacity to improve margins. However, a near 20% fall in capacity combined with a 12% increase in utilisation does illustrate that the market is struggling to respond to market signals. The result is fairly obviously an increase in freight rates.

Fig.7 Cargo Load Factors by Region



Source: IATA

THE FUTURE OF AIRFREIGHT

Short-term Prospects

Short-term prospects are extraordinarily uncertain. On the one hand, underlying demand from economic growth is likely to be quite high, with inventory levels in particular supporting vigorous growth in the US market especially. Demand in the rest of the world will probably be even more volatile with export demand into the US from Europe being high but real uncertainty on the timing of any European recovery. Although many European economies are likely to have a 'snapback' in demand sometime in 2021, its timing is very unclear. The vigour of any recovery may also be restrained by economic fundamental in many Euro states, with Italy, Spain and France facing the prospect of fiscal contraction at some time.

However, many other economies in regions such as North or South East Asia are likely to see much more vigorous rebounds due to their domestic economies being less severely affected with the major proviso that heavily tourism dependent nations will take longer to recover.

Unusually the major problem is not demand but supply. This is very hard to estimate as it is unclear when passenger air services will recover. It may

be that airlines will not be in a financial position to recommission their fleets for some considerable time, whilst there is a strong likelihood that any recovery will miss major tourist seasons and thus any incentive to put more aircraft in the air in the short-term will be less. It is very likely that airlines will focus on fewer, more profitable services. Thus, belly freight capacity will remain depressed. The incentive for more freighter services may also lessen as the prospect on a return to normality moves closer.

Therefore, the prospects for the air freight sector are likely to be:

- Continuing constrained capacity
- Growing demand
- Geographically unbalanced demand
- Continued high freight rates

Long-term prospects

The air freight market is changing. The likelihood of structural change in this market is very high.

Looking at the Boeing forecasts the situation over the longer-term may be quite different to the past. Growth of the air fleet over the next 20 years is forecast to be 3.2% annually whilst growth in

air cargo is forecast to be 4%. The logic of these numbers is that available belly freight capacity will fall. This suggests that the low freight rates seen in the ten years previous to 2020 have come to an end.

There is likely to be consolidation in the airline market, reducing both competition and capacity. Growth in passenger numbers is likely to be lower at least in the nearer-term, something amplified by greater barriers to movement through the use of various 'health' measures. Demand for airfreight, however, is likely to remain strong, with e-commerce in particular underpinning long-term growth. This

suggests that networked airfreight or 'air express' solutions will take a greater share of the market.

Therefore, over the long-term:

- Capacity availability of belly freight may grow more slowly
- Freighters may gain market share
- Large freight or 'Express' networks will gain market share with these relying on in-house freighters to an increased degree
- Freight rates will rise and generally remain strong.

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