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The role of Austrian Airlines within the Lufthansa Group

Robert Mayer[a,*], Darren Ellis[a], Henrik Rothe[a] & Tim Tschannen[a]

[a]*Centre for Air Transport Management, Cranfield University, College Road, Cranfield MK43 0AL, United Kingdom*

Abstract

Austrian Airlines is a relatively small but important part of the Lufthansa Group, and is to some extent overshadowed by its much larger German owner, together with its higher profile Swiss International Airlines compatriot and neighbour. Even so, Austrian is not as small as the group's other network carrier member Brussels Airlines. The group's low-cost point-to-point carrier Eurowings is not closely considered in this paper as the primary focus here is on a network carrier analysis, with Austrian positioned as the main case study subject. In this regard, Austrian delivers a hub-and-spoke network out of Vienna International Airport (VIE) which both compliments and strengthens the overall group's scale, scope and density. Austrian contributes a substantial boost to the Lufthansa Group in Central and Eastern Europe, though this has been reduced as a result of the ongoing war in Ukraine, including Russian air space closure. Austrian's future prospects are closely aligned with events in Ukraine, with an end to the war likely to see the airline well positioned to resume services quite quickly to Ukraine, Belarus and Russia. The study here finds that Austrian Airlines clearly maintains a symbiotic relationship with its parent company, rather than a dependency on the wider group for its survival, though it would likely be a smaller airline if it was not part of the Lufthansa Group. They compliment each other.

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Keywords: Austrian Airlines; Lufthansa Group; network carrier; case study analysis

1. Introduction

This paper aims to explore and assess the role of Austrian Airlines (OS) – aka Austrian – within the wider Lufthansa Group. Austrian Airlines is the flag carrier and largest airline to be home based in Austria, and predominately operates out of its main hub at Vienna International Airport (VIE). The airline is a wholly owned subsidiary of the Lufthansa

* Corresponding author. Tel.: +44 (0)1234 754971.
E-mail address: r.mayer@cranfield.ac.uk

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Group which includes fellow full-service network carriers Lufthansa Airlines (Germany), Swiss International Airlines (Switzerland) and Brussels Airlines (Belgium), together with low cost carrier Eurowings (Germany). Austrian offers both domestic and international services, the latter mostly focused on short-haul intra-European destinations, with a more modest long-haul network concentrated on several destinations in North America. In addition, Austrian serves two destinations in Northeast Asia – Shanghai Pudong (PVG) in China, and Tokyo Narita (NRT) in Japan. In Southeast Asia, the airline serves Bangkok (BKK) in Thailand, along with several destinations in the Middle East and Indian Ocean (ch-aviation, 2023).

Austrian's global route network is mirrored in its fleet composition with a strong focus on narrow body aircraft, chiefly the Airbus A320 (33) and A321 (6), along with Embraer 190 (17). In contrast, the airline's smaller wide body fleet is centred around the Boeing 777-200ER variant (6) and B767-300ER (3), with these soon to be replaced with ten Boeing 787-9 Dreamliners. Austrian's current operational fleet totals 65 aircraft (ch-aviation, 2023). Austrian Airlines is also a member of Star Alliance, the largest global airline alliance (Star Alliance, 2023).

Though the research presented here essentially represents a snapshot in time, and as such does not provide a longer-term historical analysis of Austrian Airlines – such as that available via time series data – it nevertheless still helps to illuminate the often overlooked or less acknowledged role that smaller airlines play within larger airline groups. Likewise, an econometric analysis would also yield further insights not presented here in this study. In this context, the underlying contention of this paper is to uncover key insights into Austrian Airlines role within the Lufthansa Group in order to challenge or confirm the hypothesis that smaller airlines do significantly more than merely support or survive due to their larger parent airline host. The research here intends to discover whether or not Austrian Airlines has a symbiotic relationship with the Lufthansa Group, or is simply dependent.

2. Methodology

This paper is based on data from OAG and the extant air transport literature, with a particular focus on case study research. The supply data (seats and frequency) and demand data (seats sold, point of sale) were collected in August 2023, using the OAG database and its Schedules and Traffic Analyser tool (OAG, 2023). Supply data was collected for the year 2023, unless otherwise stated. With regards to seats and frequency, the data refers to the supply that were collected by OAG in August 2023. However, it needs to be borne in mind that for future flights (i.e. flights in the second half of 2023), the data might change as airlines adapt their network.

With regards to the demand data, sales in the first half of 2023 (January to June) were collected. Here it needs to be noted that for European airlines important months of July and August are not included. The reason for the choice of 2023 is that this can be seen as the first year following the Covid-19 pandemic, with data from 2020 to 2022 being significantly affected by the pandemic, while 2019 would not have taken into consideration changes in the post-pandemic world.

This paper follows a case study research approach. Case studies often rely on multiple sources (Yin, 2009). As mentioned in the previous paragraph, the case study here will be based on an examination of the extant literature and an analysis of capacity and passenger data. The network structure of the airline (as well as other Lufthansa Group network carriers) will be analysed. Case studies investigating individual airlines within wider airline groups are not uncommon in the air transport literature. For instance, Raynes and Tsui (2019) looked at both the Singapore Airlines Group, together with the Qantas Group. Other examples include Manuela, Rhoades and Curtis (2016) who assessed the US Airways Group, including a focus on the group's acquisition of America West Airlines. Meanwhile, Dron (2023) writing for the *Royal Aeronautical Society* noted that "the big three airline groups" in Europe (para. 5) compete with a range of low-cost carriers and regional and medium sized independent airlines, the latter including Finnair and LOT Polish Airlines.

3. Results

3.1. The Vienna Hub

Austrian's Vienna hub plays a pivotal role in supporting the airline's international route network, and enhancing the overall reach of the Lufthansa Group. Being part of a larger airline group allows medium sized airlines such as

Austrian to leverage economies of scale and market power which would otherwise prove elusive. In this context, major airlines with their respective hubs have played a central role in shaping global aviation over the past few decades (Ellis & Leib, 2021). Key to this successful paradigm in Europe has been the existence of "grandfather rights" that give airlines such as Lufthansa at FRA, British Airways at LHR, Air France at CDG, and KLM at AMS significant privileges (Kösters, Meier & Sieg, 2023). These advantages have been incorporated in their business structures, creating a mutually beneficial relationship that strengthens their positions in the aviation industry's competitive environment. Capacity shortages at many airports require major airlines and alliances to distribute their aircraft and operation. The flexibility of Austrian Airlines also adds to the value of the Star Alliance network. Unlike Frankfurt, Zurich and Brussels, Vienna currently only operates two runways which could limit growth. However, plans for a third runway are underway and should give Vienna Airport a competitive advantage, especially as Frankfurt continues to grapple with capacity constraints (Dunn, 2023)

The Flughafen Wien Group (FWAG Group or Vienna Airport Group) is made up of three international airports located in Austria (Vienna), Malta and Slovakia (Košice), along with the general aviation airfield at Bad Vöslau, also in Austria. Vienna Airport is one of the largest employers in Eastern Austria, and with its fully consolidated subsidiaries, employs 6,575 full-time equivalent (FTE) staff on an annual average (VIE, 2023). Innovative passenger handling concepts include baggage check-in and pre-processing in trains for passengers travelling longer distances to VIE. The City Air Terminal Betriebsgesellschaft m.b.H. – or City Airport Train (CAT) – is an innovative enterprise founded in 2002 as a joint subsidiary of Flughafen Wien AG and ÖBB with an ownership ratio of 50.1% (Flughafen Wien AG) and 49.9% (ÖBB). In just 16 minutes, the CAT takes its passengers non-stop from Vienna Airport to the Wien Mitte (Vienna Centre) transportation hub (CAT, 2023).

Expatriates value Vienna as a city with one of the highest quality of life scores globally (Bello, 2022). As the largest German speaking city outside Germany, Vienna has strong links to Germany and Star Alliance. Consequently, Vienna Airport has identified its potential for an airport city with world class commercial facilities on the airport campus and nearby the airport. The airport's strategy is to establish the Airport Region based on intelligent links between air transport and regional development in surrounding villages and districts, strengthening the passenger catchment potential of Vienna and for Star Alliance (VIE, 2023). Vienna Airport City through its management from a real estate perspective strengthens the importance of Vienna as a destination and hub for passengers, local communities and guests of the city and region contributing to Vienna's attractiveness and success supporting Vienna Airport as hub for Star Alliance. Vienna Airport and Austrian Airlines though comparatively small, are still important for the continued sustainable development of Star Alliance.

3.2. Network Analysis

3.2.1. Austrian's unique (and not so unique) network within the Lufthansa Group

In 2023, Austrian serves 121 airports in Africa, Asia, Europe, the Middle East and North America (though some airports have only been served a few times in this period). This number is fairly constant to pre-pandemic levels. In 2023, Austrian operates flights to more airports than Swiss (116) or Brussels Airlines (95), yet significantly fewer destinations than Lufthansa (216) (OAG, 2023).

As with all three other network carriers within the Lufthansa Group, the majority of seats of Austrian are deployed in Western Europe (2023: 83.5%, see Table 1). However, based on the geographic location of its hub in Vienna – the most Eastern hub in the Lufthansa Group – about 11% of its seats are on routes to Central and Eastern Europe in 2023. In comparison, for Lufthansa only 6% of its seats, and for Brussels Airlines only 3% of its seats, are employed in this region. This highlights the relative importance of the Central and Eastern European market for Austrian. This importance becomes even more evident when considering the point of sale. In the first half of 2023, about 17% of passenger tickets were sold in Central and Eastern Europe, which is more than double than for Lufthansa and about 4.5 times more than for Brussels Airlines (OAG, 2023).

Table 1. Planned one-way seats 2023 (in thousand as of 8 August 2023) (Source: OAG, 2023).

Region	Lufthansa Airlines		Austrian Airlines		Swiss International Airlines		Brussels Airlines	
Western Europe	58,337	81.9%	15,170	83.5%	18,508	85.5%	8,788	80.6%
Central and Eastern Europe	4,322	6.1%	1,919	10.6%	930	4.3%	336	3.1%
North America	3,475	4.9%	406	2.2%	1,021	4.7%	135	1.2%
Middle East	1,234	1.7%	307	1.7%	241	1.1%	98	0.9%
Asia	2,035	2.9%	233	1.3%	589	2.7%	0	0.0%
Africa	1,243	1.7%	129	0.7%	174	0.8%	1,546	14.2%
Latin America	591	0.8%	14	0.1%	183	0.8%	0	0.0%
Total Seats	71,237	100.0%	18,178	100.0%	21,646	100.0%	10,903	100.0%

While for Austrian alone Central and Eastern Europe are clearly important focus areas of their network strategy, overall Lufthansa offers more the double the number of seats to Central and Eastern Europe in 2023, and sold about 1.6 more tickets in the first half of 2023. Furthermore, Lufthansa operates flights to 33 destinations in Central and Eastern Europe while Austrian serves 24, Swiss 16 and Brussels Airlines nine. Only five cities are exclusively served by Austrian within the Lufthansa Group. Despite Austrian's clear focus on Central and Eastern Europe, within the Lufthansa Group, Austrian is only the second airline in terms of seats and ticket sales.

The focus on markets to the East is also noticeable with regards to seats to the Middle East. About 1.7% of Austrian's seats are to the Middle East in 2023, which is similar to Lufthansa's share of its seats. When it comes to tickets sold, the Middle East is even more important for Austrian with about 2.4% of its tickets sold in that region (vs 2.0% for Lufthansa, 1.7% for Swiss and 1.6% for Brussels Airlines). In absolute values, Lufthansa offers the most seats (about 4x the seats of Austrian) to the Middle East, with Austrian being a distant number two (OAG, 2023).

With most of its capacity employed on intra-European routes, for Austrian long-haul routes are only a minority, as Austrian has the lowest number of long-haul seats on offer in the Lufthansa Group. The largest number of long-haul seats are offered to North America, where Austrian is the third largest carriers in the Lufthansa Group (only Brussels Airlines offers fewer seats to North America) (Fig 1). Also, within the Lufthansa Group, Austrian only plays a minor role when it comes to destinations outside Europe. Out of the 18 destinations that the airline serves outside Europe in 2023, the routes to Cancun, Mauritius and Malé are exclusively served by Austrian out of the four network airlines in the Lufthansa Group. Of the remaining 15 routes, measured by seats, Austrian is the most dominant Lufthansa Group airline only in Erbil, Iraq. To Amman, Jordan, Austrian offers a similar number of seats than Lufthansa. Also, to Bangkok, Austrian offers a comparable supply to Lufthansa and Swiss. However, on the majority its remaining long-haul routes, Austrian contributes to less than a quarter of the annual seat offering of the Lufthansa Group, and on the routes to New York JFK and Los Angeles less than 10%. Hence, Austrian only plays a minor role in the long-haul network of the group (OAG, 2023).

Fig. 1. Destinations outside Europe offered by Austrian (Source: OAG, 2023)

Overall, within the Lufthansa Group, Austrian is the airline with the most reliance on the Intra-European market, with about 94% of its seat capacity employed in this market. In comparison, for Brussels Airlines this is only 83%, for Lufthansa 88% and for Swiss 90% for 2023 (OAG, 2023).

The geographic spread shows that the network of Austrian is very much concentrated on Europe, which also becomes obvious when calculating a concentration ratio for the seats offered. Using a Herfindahl-Hirschman index (see Equation 1), where the share of seats (as a percentage of all seats) offered by each airline in each country in the world is used, the seat concentration of the four airlines is calculated.

$$\sum_{i=1}^{N}(SS_i)^2 \tag{1}$$

N = the number of countries where the airlines fly to
SSi = the share of seats offered on flights to country i as a percentage of all seats offered

As shown in Table 2, Austrian has the second highest concentration of seats in the Lufthansa Group, though the results for Swiss are nearly the same, while Lufthansa's network is the most concentrated.

Table 2. Concentration ratio (HHI) of seats offered by country (Source: OAG, 2023)

	Austrian	Lufthansa	Swiss	Brussels Airlines
Seat concentration ratio (HHI)	**2829**	3565	2808	2297

Nevertheless, with regards to the point of sale, Austrian is the least dependent on its home market. In the first half of 2023, Austria was the point of sale for only about 24% of Austrian's tickets. In comparison, for Lufthansa, Germany was the point of sale for just over 40% of tickets, Switzerland 33% for Swiss and Belgium 37% for Brussels Airlines. The spread of Austrian's points of sale also becomes obvious when calculating a concentration ratio for the points of sales. Using a Herfindahl-Hirschman index (see Equation 2 and Table 3), where the share of ticket sales of each airline in each country in the world is used, differences become obvious.

$$\sum_{i=1}^{N}(TSS_i)^2 \tag{2}$$

N = the number of countries where the airlines sells tickets
TSSi = the share of tickets sold in country i as a percentage of all tickets sold

Table 3. Concentration ratio (HHI) of tickets sold by country (Source: OAG, 2023)

	Austrian	Lufthansa	Swiss	Brussels Airlines
Point-of-sale concentration ratio (HHI)	**1087**	1809	1431	1636

Although Austrian is only the third largest network carrier within the Lufthansa group measured by seats in 2023, of the four network airlines, it offers the largest capacity to 34 destinations, including its hub Vienna (Figure 2). Of those 34 destinations, 19 are only served by Austrian, and not by Lufthansa, Swiss or Brussels Airlines. It is noticeable, that most of these destinations lie in Central and Eastern Europe and particularly in the Eastern Mediterranean. Even so, it needs to be remembered that some of these destinations are served by other Lufthansa Group airlines, particularly from German and Swiss airports. The Lufthansa Group carriers Eurowings (from Germany) and Edelweiss (from Switzerland) particularly focus on leisure destinations in Southern Europe and some long-haul destinations. While Eurowings also serves leisure destinations from the smaller Austrian airports of Salzburg, Innsbruck and Graz, they do not from Vienna (the largest city in Austria).

As such, Austrian fulfils a double role from its hub in Vienna: a network carrier operating a hub-and-spoke network, but also serving as a leisure carrier providing point-to-point connections to popular tourist destinations in the Eastern Mediterranean. For example, in July and August 2023, Austrian employs 3.9% of its seats to Greece, while for Lufthansa, this number is only 1.1% (though in absolute numbers both airlines offer around the same number of seats). Contrarily, Austrian has the lowest share of seats in the Lufthansa Group to countries in the Western Mediterranean (e.g. Austrian only employs 2.3% of its seats to Spain in Summer 2023, while Brussels offers 6.2%, Swiss 5.3% and Lufthansa 3.4% of its seats).

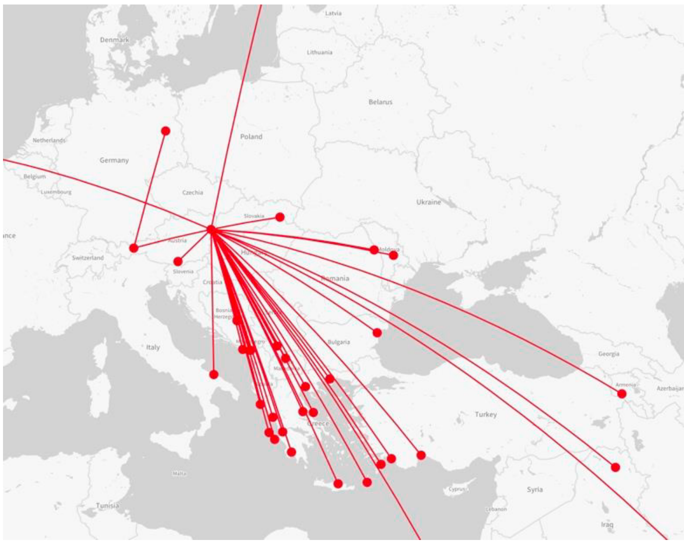

Fig. 2. Destinations where Austrian provides the largest capacity of a network airline in the Lufthansa Group (Source: OAG, 2023)
NB: Cancun, Rovaniemi, Mauritius and Malé are off the map.

When assessing the average frequency that each route is served, Austrian serves each route about 473 times in 2023, which is similar to Swiss, but lower than Lufthansa (636) and higher than Brussels Airlines (374). While the numbers have slightly reduced in comparison to pre-Covid, the order of the four airlines has remained constant in comparison to 2019 (OAG, 2023).

With regards to the average seats offered per flight, Austrian has the lowest number of seats offered per departure in 2023. On average Austrian offers 159 seats per departure, while Lufthansa for example offers 168 seats. However, over the last few years, Austrian's average numbers of seats per departure has increased significantly from 125 in 2014, while Lufthansa's number has only marginally increased from 160 in 2014 (OAG, 2023).

Examining the specific role of Austrian, there are similarities with Lufthansa, Swiss and Brussels Airlines. For example, like Lufthansa, Austrian offers many destinations in Central and Easter Europe as well as the Middle East, which is different to the network of Swiss and Brussels Airlines. Meanwhile, Austrian also has similar traits across its network to Swiss as both act as smaller hub carriers within the group connecting specialist markets. This has also been identified and discussed by Nenem et al. (2020, p. 11) who state that "although VIE [Vienna] and ZRH [Zurich] appear to offer 'high-quality' connections, the carriers using these airports as hubs (Austrian and Swiss respectively) are disadvantaged in their volume of supply which results in their CI [connectivity index] scores being relatively small in comparison to their rivals". A study by Tschannen (2023) on the similarities of airlines within the Lufthansa Group also found that Austrian, Swiss and Brussels share similarities in their network characteristics. Despite these similarities, Austrian also has its own unique network characteristics, particularly by serving exclusive destinations in Central and Eastern Europe and the Middle East, and by being the dominant capacity provider on certain routes.

With regards to the seats from the Lufthansa hubs of Frankfurt and Munich to Vienna, there has been a shift in capacity provision. Over the last 10 years (2014 to 2023) Lufthansa's share has significantly decreased. In 2014, Lufthansa provided the majority of seats (Frankfurt: 59.5%; Munich: 52.7%), while in 2023 Austrian is now the main capacity provider on these routes (Frankfurt: 85.3%; Munich: 68.5%). Similar trend is also noticeable on the Frankfurt – Brussels and Munich – Brussels routes, where Brussels Airlines' share has increased, however this is at a much lower level (Frankfurt: 26.5%; Munich: 47.8%) in 2023. For Swiss, the shares have fluctuated more over this period with no clear trend. This shows that Austrian's role (and to some extent Brussels Airline's) as feeder to the Lufthansa hubs of Frankfurt and Munich has significantly increased. At the same time, it needs to be noted though that the total number of seats from Frankfurt to Vienna has been marginally declining pre-pandemic, while on the Munich – Vienna has been growing from 2014 to 2019.

3.2.2. Network recovery following Covid-19

The Covid-19 pandemic has had a significant impact on the aviation industry as a whole and as such also on the Lufthansa Group. Within the Lufthansa Group, aircraft were grounded, subsidiaries were closed (i.e. Germanwings), the focus shifted towards cargo, and so forth (Albers and Rundshagen, 2020). Austrian (and Brussels Airlines) at one point completely stopped their flying programme, while Lufthansa and Swiss never completely stopped their operations (Budd et al., 2020). Besides this, there did not seem to be any major differences in the response to Covid-19 of Austrian in comparison to the other three network carriers in the Lufthansa Group.

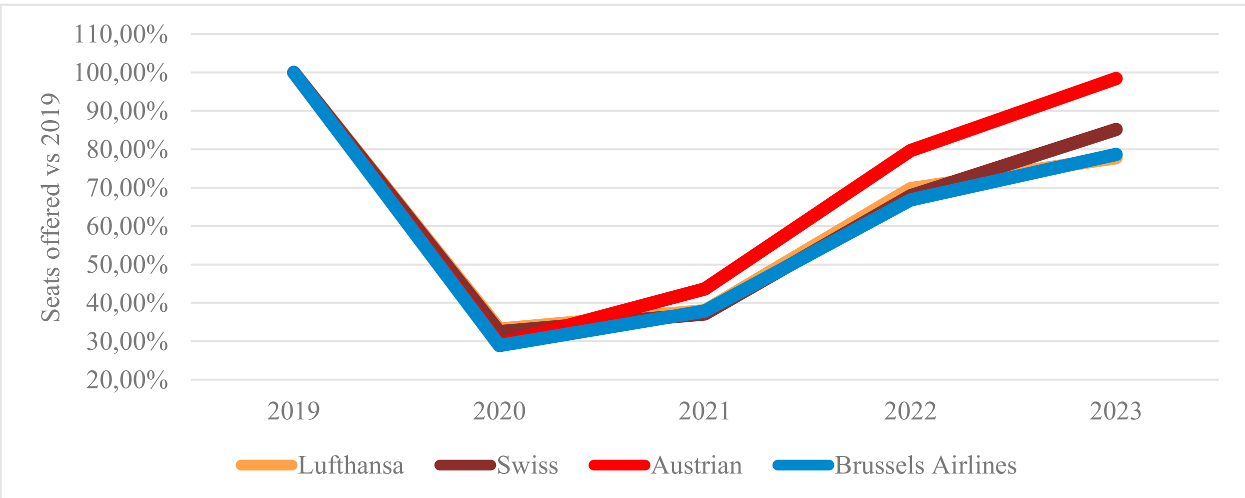

Fig. 3. Annual seats offered as a percentage of seats offered in 2019 (Source: OAG, 2023)

Figure 3 illustrates the impact of Covid-19 on seats offered by the four airlines as well as the recovery until 2023. It is noticeable that the initial impact on seat supply of the four airlines was fairly similar, with Austrian and Brussels Airlines being marginally hit more. As mentioned above, those two airlines stopped operations temporarily in 2020.

Still, when looking at the recovery pattern, differences become apparent. Particularly for Austrian, the recovery was much quicker than the other three airlines in the group, and in 2023 the airline is scheduled to operate nearly the same number of seats (98%) as pre-pandemic. When comparing these results to the network structure of the four airlines, this is not unexpected, with Austrian being the least exposed to long-haul markets of the four airlines. The intra-European market has recovered much quicker than long-haul markets (CAPA, 2022; Grant, 2023). Generally, when it comes to long-haul recovery, the North Atlantic market has recovered better than most other long-haul markets (Grant, 2023). As shown in Table 1, this is the most important long-haul market for Austrian, with the airline being less exposed to the Asian market, with only 1.7% of its 2019 seats being offered to this continent. In comparison, for Lufthansa this number was 3.4% and for Swiss 3.0%. In general, the recovery in East Asia lags behind other markets (Grant, 2023), which is also noticeable when looking at the airlines in the Lufthansa Group and their exposure to this market.

4. Discussion

The analysis of Austrian's network and hub has shown its uniqueness in many areas, while at the same time also some similar characteristics to Swiss and Brussels Airlines within the Lufthansa Group. Due to some of these characteristics of the airline, it is also exposed to unique challenges. This manifests itself particularly in the current geopolitical issues in Eastern Europe, especially the loss of destinations in both Russia and Ukraine.

Austrian's focus on Central and Eastern Europe has been affected by the war in Ukraine. Before the Covid-19 pandemic, Austrian served more cities in Russia (Moscow, St Petersburg and Krasnodar) and the Ukraine (Kyiv, Odesa, Dnipro and Lviv) than any of the other three carriers in the Lufthansa Group, though measured by the number of seats, it offered fewer seats than Lufthansa itself in both countries, and also fewer seats to Russia than Swiss in 2019. Furthermore, in 2019 Austrian was the largest Lufthansa Group carrier in Belarus, measured by seats offered (OAG, 2023). With regards to relative importance, Austrian has been the most affected by the Ukraine war across the group. In 2019, 2.2% of Austrian's seats were offered to those countries, while for Lufthansa and Swiss this was only 1.1% of their seats; and for Brussels Airlines 0.6% of its seats. Measured by the number of tickets sold in these countries, the impact is even more significant; in 2019 these three countries were the point of sale for 3.2% of Austrian's tickets, while only 1.6% for Lufthansa, 1.3% for Swiss and 0.7% for Brussels Airlines (OAG, 2023).

Another challenge that the airline faces is the increasingly critical view of domestic flights held by many European politicians and activists due to the environmental impacts of aviation. Austrian in recent years has started to co-operate with the Austrian Federal Railway, resulting in the complete termination of flights between the city of Linz and Vienna. While Linz is now directly connected to Vienna airport by rail (and a rail-based "codeshare" with Austrian), research by Maertens and Grimme (2022) shows that there has been some leakage of traffic to Frankfurt following the terminations of this route. Coupled with the increasing role of Austrian as a feeder to the Frankfurt hub from Vienna, the influence of Lufthansa on Austrian's network is noticeable in this respect.

5. Concluding observations

Austrian Airlines represents a valuable and insightful case study of the role, contribution and significance of relatively smaller airlines with lower profiles which operate within wider airline groups that are anchored to major airlines and other higher profile member airlines. Such airlines often add substantial weight to their group, and in the case of Austrian Airlines, this value-add extends well beyond merely its ownership resting with a large global airline with shared linguistic and cultural heritage. Austrian helps to ensure that the Lufthansa Group is well represented in Central and Eastern Europe, including being well placed to re-establish air links with Ukraine, Belarus and/or Russia as such services become possible in future. Austrian also allows the Lufthansa Group to operate as a truly pan-European airline with major hubs and carriers dotted across the continent, and able to tap into traffic flows more effectively.

Not only does Austrian fly the flag of a mid-sized European country with a history of postwar independence and neutrality, its Vienna hub is geographically located on the eastern edge of western Europe, giving it distinct and valuable entrenched competitive advantages challenging for rivals to replicate or substantially erode. This longer historical perspective helps to highlight the directions that future research could take in order to uncover even deeper and wider ranging core insights into the airline and its group. Likewise, a more substantive comparative analysis in future of Austrian Airlines alongside Swiss International Airlines and Brussels Airlines, would reinforce the reality that European governments remain loathed to see their national carriers disappear entirely, and that ownership by the larger Lufthansa Group is more a reflection of pragmatic reality than an option of last resort.

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