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**The impact of Covid-19 on civil aviation  
in Italy and Germany**

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*Alle mie certezze*

*To my certainties*

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## **ABSTRACT**

The 2019 coronavirus (COVID-19) pandemic has been a global catastrophe which has disrupted business operations in all industries. The airline industry is one of the first industries that was affected from the event because the virus is easily passed among people.

The implementation of vaccines since the very end of 2020, thanks to the fast studies carried out throughout the world, are trying to help coming out from this disease. Thus, governments around the world have sometimes prohibited cross-country transportation. The market value of the airline business has shrunk since then. Ultimately, this incident motivates me to study the impact of COVID-19 on the performance of the airline industry around the world. Similar events can be seen in the catastrophic shocks from airline disasters such as: the September 11, 2001, attacks in New York and the impact of severe acute respiratory syndrome (SARS) in 2003.

The COVID-19 pandemic has caused disruptions in all parts of the world. In this thesis I investigate the impact on the global airline business. Three crucial announcements are selected to be studied, which are: the first case reported outside China (Event 1: January 13, 2020); Italy outbreak (Event 2: February 21, 2020) and

the declaration by WHO<sup>1</sup> on the global pandemic outbreak and the announcement of President Trump to ban travellers from 26 European countries (Event 3: March 11, 2020). These events created big troubles to airlines, which are still visible today. In this thesis, I will focus more on Italy and Germany, which are the two countries where I am doing my studies. I will also analyse the respective airlines of the two countries, Alitalia for Italy and Lufthansa for Germany and how did they react and manage the health crisis.

The governments in each country are at an intersection — whether to provide financial support or guarantee existing debt, or to believe in market mechanisms and let the airline firms heading for bankruptcy. To back up the airline industry, several alleviation policies could deal with mergers and acquisitions, tax policy, and government subsidies.

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<sup>1</sup> World Health Organization

## **ABSTRACT( VERSIONE ITALIANA)**

La pandemia di coronavirus (COVID-19) del 2019 è stata una catastrofe globale che ha interrotto le operazioni commerciali in tutti i settori. L'industria aerea è una delle prime industrie che è stata colpita dall'evento perché il virus si trasmette facilmente tra le persone. L'implementazione di vaccini dalla fine del 2020, grazie ai rapidi studi effettuati in tutto il mondo, sta cercando di aiutare a uscire da questa pandemia . Così, i governi di tutto il mondo hanno talvolta vietato il trasporto tra paesi e, di conseguenza, il valore di mercato delle compagnie aeree si è ridotto da allora. In definitiva, questo incidente mi motiva a studiare l'impatto del COVID-19 sulla performance dell'industria delle compagnie aeree in tutto il mondo. Eventi simili possono essere visti negli shock catastrofici dei disastri aerei come: gli attacchi dell'11 settembre 2001 a New York e l'impatto della sindrome respiratoria acuta grave (SARS) nel 2003. La pandemia COVID-19 ha causato interruzioni in tutte le parti del mondo. In questa tesi pongo attenzione sull'impatto nel business globale delle compagnie aeree. Tre episodi cruciali segnano il percorso, che sono: il primo caso riportato fuori dalla Cina (Evento 1: 13 gennaio 2020); l'epidemia in Italia (Evento 2: 21 febbraio 2020) e la conseguente dichiarazione dell'OMS della pandemia globale e l'annuncio del presidente Trump di bandire i viaggiatori da 26 paesi europei (Evento 3: 11 marzo 2020). Questi eventi hanno creato grandi problemi alle compagnie aeree, che sono ancora visibili oggi. In questa tesi, mi



concentrerò maggiormente sull'Italia e la Germania, che sono i due paesi dove sto facendo i miei studi. Analizzerò anche le rispettive compagnie aeree di bandiera dei due paesi, Alitalia per l'Italia e Lufthansa per la Germania e come hanno reagito e gestito la crisi sanitaria. I governi di ogni paese si trovano ad un bivio: se fornire sostegno finanziario o garantire il debito esistente, o credere nei meccanismi di mercato e lasciare che le compagnie aeree vadano verso il fallimento. Per sostenere l'industria delle compagnie aeree, diverse politiche potrebbero riguardare le fusioni e le acquisizioni, la politica fiscale e i sussidi governativi.

## 1. COVID PANDEMIC AND ITS ECONOMIC CONSEQUENCES

### 1.1 THE PANDEMIC OUTBREAK

The ongoing global pandemic of coronavirus disease 2019 (COVID-19) is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The virus was identified for the first time in Wuhan, China in December 2019. In January 2020, China implemented a nationwide lockdown in Wuhan, but this measure was not effective to contain the virus, with it spreading to other parts of mainland China and, eventually, around the world.<sup>2</sup> The World Health Organization (WHO) declared the virus a Public Health Emergency of International Concern on January,30 2020 and later a pandemic on March,11 2020. As of July 15, 2021 more than 188 million cases have been confirmed, with more than 4.05 million confirmed deaths attributed to COVID-19<sup>3</sup>, making it one of the deadliest pandemics in history.

Recommended prevention measures are: social distancing, wearing face masks in public, ventilation and air-filtering, hand washing, covering one's mouth when sneezing or coughing, disinfecting surfaces, and monitoring and self-isolation for

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<sup>2</sup> "Coronavirus: This is the story of how COVID-19 spread around the world". Sky News. Available at:<https://news.sky.com/story/coronavirus-deaths-pass-one-million-how-covid-19-spread-and-stories-of-human-tragedy-12083278>. Accessed on 10 July 2021.

<sup>3</sup> "COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU)". ArcGIS. Johns Hopkins University. Accessed on 15 July 2021

people exposed or symptomatic. Several vaccines have been developed and widely distributed in most developed countries (Europe, Russia, China and the USA) since December 2020. Current treatments focus on addressing symptoms, but work is underway to develop medications that inhibit the virus. Authorities worldwide have responded by implementing travel restrictions, lockdowns and quarantines, workplace controls, and business closures. Numerous jurisdictions have also worked to increase testing capacity and trace contacts of the infected<sup>4</sup>.

## **1.2 THE SPREAD IN ITALY**

In Europe, the first country to be hit by the spread of the virus has been Italy.

The outbreak was confirmed in Italy on 31 January 2020, when two Chinese tourists tested positive for SARS-CoV-2 in Rome<sup>5</sup>. Cases began to rise sharply, which urged the Italian government to suspend all flights to and from China and declare a

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<sup>4</sup> "Coronavirus (COVID-19): General advice". Available at: [www.nhsinform.scot](http://www.nhsinform.scot). Accessed 06 June,2021

<sup>5</sup> "Coronavirus: Primi due casi in Italia" [*Coronavirus: First two cases in Italy*]. Corriere della sera (in Italian). (31 January 2020). Accessed 07 June,2021

state of emergency.<sup>6</sup> An associated cluster of COVID-19 cases was later detected, starting with 16 confirmed cases in Lombardy region on 21 February 2020.<sup>7</sup>

On 4 March 2020, the Italian government ordered the complete closure of all schools and universities nationwide as Italy reached a hundred deaths. All major sporting events were to be held behind closed doors until April<sup>8</sup> but on 9 March, all sport was suspended completely for at least one month. On 11 March 2020, Prime Minister Conte ordered stoppage of nearly all commercial activity except supermarkets and pharmacies.<sup>9</sup>

On 19 March 2020, Italy overtook China as the country with the most COVID-19-related deaths in the world after reporting 3,405 fatalities from the pandemic.<sup>10</sup>

A CNN report indicated that the combination of Italy's large elderly population and inability to test all who have the virus to date may be contributing to the high fatality

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<sup>6</sup> "Italy suspends all China flights as coronavirus cases confirmed in Rome". TheLocal.it. 31 January 2020. Accessed 07 June,2021

<sup>7</sup> ANZOLIN, E. AMANTE, A. "Coronavirus outbreak grows in northern Italy, 16 cases reported in one day". 21,February 2020. Reuters. Accessed 08 June,2021.

<sup>8</sup> GIUFFRIDA, A. TONDO, L. BEAUMONT P. (4 March 2020). "Italy orders closure of all schools and universities due to coronavirus". The Guardian. Accessed 15 June 2021.

<sup>9</sup> SYLVERS E, LEGORANO G (11 March 2020). "Italy Hardens Nationwide Quarantine". The Wall Street Journal. Accessed on 8, June 2021.

<sup>10</sup> "Italy coronavirus death toll overtakes China". The Independent. 19 March 2020. Accessed on 12 June,2021.

rate<sup>11</sup>. On 19 April 2020, it was reported that the country had its lowest deaths at 433 in seven days and some businesses were asking for a loosening of restrictions after six weeks of lockdown<sup>12</sup>. On 13 October 2020, the Italian government again issued restrictive rules to contain a rise in infections<sup>13</sup>.

### 1.3 THE SPREAD IN GERMANY

On 27 January 2020, the first case in Germany was confirmed near Munich, Bavaria. By the half of February, the increasing cluster of cases had been fully contained. On 25 and 26 February, multiple cases related to the Italian outbreak were detected in Baden-Württemberg.<sup>14</sup>

From 13 March, German states mandated school and kindergarten closures, postponed academic semesters, and banned visits to nursing homes to protect the elderly. Two days later, borders to Austria, Denmark, France, Luxembourg and Switzerland were closed. By 22 March, curfews were imposed in six German states

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<sup>11</sup> "Italy's coronavirus death toll passes 10,000. Many are asking why the fatality rate is so high". CNN (29 March 2020). Accessed on 8 June, 2021.

<sup>12</sup> COLEMAN, J. (19 April 2020). "Italy sees fewest coronavirus deaths in a week". The Hill. Accessed on 15 June,2021.

<sup>13</sup> "Conte firma il dpcm: stop a movida e gite, niente didattica a distanza".13 October, 2020. Available at: [www.ansa.it](http://www.ansa.it). Accessed on 15 June,2021.

<sup>14</sup> "Erster Fall des Coronavirus in Deutschland bestätigt" (in German). 28 January 2020. Der Spiegel. Accessed on 15 June,2021.

while other states prohibited physical contact with more than one person from outside one's household.<sup>15</sup>

In the implementation of federal and state guidelines to contain the COVID-19 pandemic, the Infection Protection Act (*Infektionsschutzgesetz*, IfSG) has played a central role. Enacted in 2000, the IfSG gives the authorization to state governments to issue regulations to control communicable diseases, and to order protective measures including quarantine, therefore granting them considerable power in relation to the federal government<sup>16</sup> whose primary task is to coordinate the measures taken.

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<sup>15</sup> "SARS-CoV-2: Fallzahlen in Deutschland, China und weltweit". Robert Koch Institut . 2 March 2020. Accessed on 15 June,2021.

<sup>16</sup>SAURER,J. (13 May 2020). "COVID-19 and Cooperative Administrative Federalism in Germany". The Regulatory Review. Accessed on 16, June 2021.

## 1.4 FIRST LOCKDOWNS AND ECONOMIC CONSEQUENCES

Some non-pharmaceutical interventions generally known as lockdowns (encompassing stay-at-home orders, curfews, quarantines, cordons sanitaires<sup>17</sup> and similar societal restrictions) have been implemented in many countries and territories around the world. These restrictions were established to reduce the spread of COVID-19.<sup>18</sup> By April 2020, about half of the world's population was under some form of lockdown, with more than 3.9 billion people in more than 90 countries or territories having been ordered to stay at home by their governments. Although similar disease control measures have been used for hundreds of years, but the scale seen in 2020 has been without precedents.

Closing workplaces decreases the economic output of locked-down regions. The negative economic effect of a lockdown in one region, may diffuse through supply chains, to other regions that are not necessarily locked down. When a firm is closed by a lockdown, the productivity of its client firms is likely to suffer because of the

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<sup>17</sup> French for "sanitary cordon" is the restriction of movement of people into or out of a defined geographic area, such as a community, region, or country.

<sup>18</sup> "Coronavirus: 7 dead, 229 infected in Italy as Europe braces for COVID-19". NBC News. 29 February 2020. Accessed on 16, June 2021.

lack of supply of intermediate goods and services.<sup>19</sup> Suppliers of the closed firm are also likely to see reduced production because of a shortage of demand.<sup>20</sup>

However, one important aspect is the interaction of lockdown strategies of different regions and countries and the resulting need for policy coordination. The importance of such interactions is motivated by the experience of Sweden.

#### **1.4.1 The case of Sweden**

Sweden, unlike other European countries, has not imposed a strict lockdown in 2020 in order to minimise the economic effects of the pandemic. However, it experienced a 7.4% reduction in GDP in the second quarter of 2020 compared with the previous year<sup>21</sup>. This reduced production in Sweden is comparable to those in neighbouring countries that imposed lockdowns , for example - 6.2% for Finland

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<sup>19</sup> INOUE, H; MURASE,H. and TODO,Y. (2020), "*Do Economic Effects of the Anti-Covid-19 Lockdowns in Different Regions Interact through Supply Chains?*" RIETI Discussion Paper, 21-E-001.Trade Research Institute for Economy and Industry.

<sup>20</sup>Supply chains and the effects of lockdowns. (21, March 2021). VoxEU. Available at: <https://voxeu.org/article/how-economic-effects-covid-19-lockdowns-different-regions-interact-through-supply-chains>. Accessed on 21, June 2021.

<sup>21</sup> Eurostat,2021.



and -4.6% for Norway<sup>22</sup>— possibly because of propagation of <sup>23</sup>negative effects from locked-down countries to Sweden through economic networks. This anecdote calls for an examination of the interactions of the economic effects of lockdown strategies.

It stands out from its European peers in that its government chose against a lockdown in the first half of 2020, although its exposure to COVID-19 was not systematically different from the rest of Europe. Still, the Swedish authorities merely advised—rather than ordered—citizens to adjust their behaviour in the face of the pandemic. People were told “to avoid unnecessary traveling and social events, to keep distance to others, and to stay at home” if they had any symptoms. In addition, over 70 aged people were “advised to avoid social contact” and “visits to retirement homes” were prohibited.<sup>24</sup>

As a group, Nordic economies seemed to have weathered the COVID-19 storm better and "got off lightly" compared with the rest of the world.

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<sup>22</sup> Eurostat,2020.

<sup>23</sup> DEBONO,M. and KENNINGHAM,A. *Nordics set for shallowest recessions in Europe. Nordic & Swiss Economic Outlook*. 21, July 2020. Available at: <https://research.cdn-1.capitaleconomics.com/e877f9/nordics-set-for-shallowest-recessions-in-europe.pdf>. Capital Economics.

<sup>24</sup>*The lockdown effect: A counterfactual for Sweden* (08, April 2021). Available at: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0249732>. Accessed on 18,June 2021.

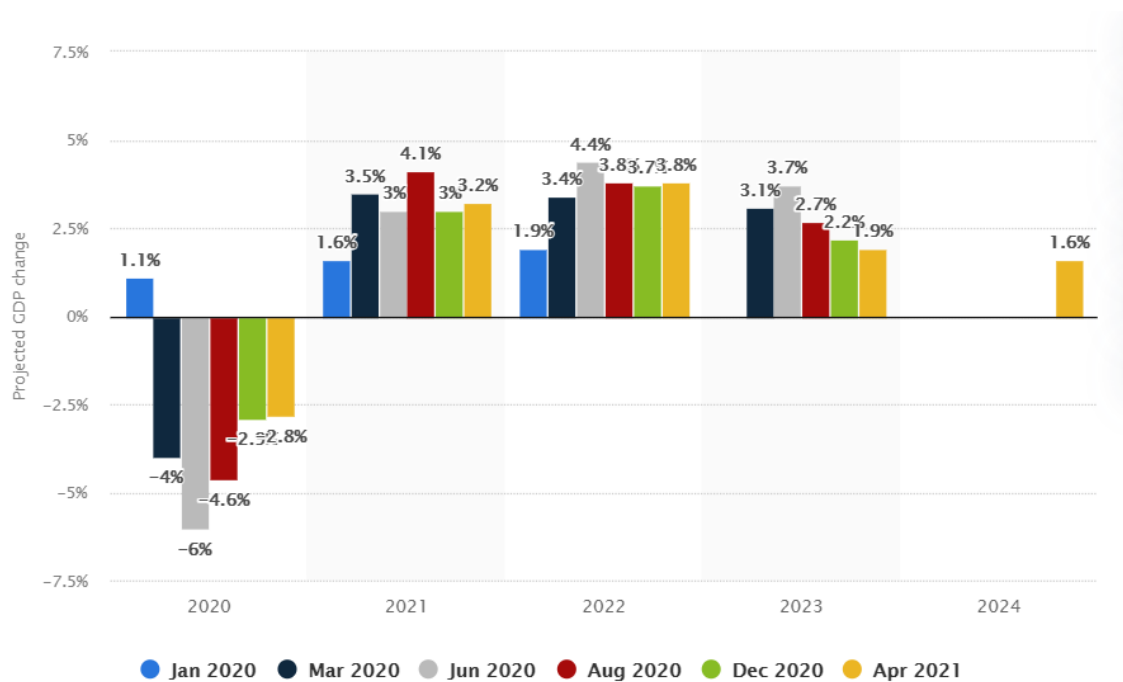


Figure 1.1: The change of GDP in Sweden Jan 2020; Source: Statista, 2021

The decrease of GDP in Sweden has been slightly lighter respect to the forecasts, due to also to the strong economy of the country.

### **1.4.2 The case of Germany**

The German economy has also been impacted heavily from the pandemic, due to the prolonged lockdowns in 2021 mostly, but German economy has a strong background, so it has lighter negative changes respect, for example, to the Italian

one. The German economy contracted by 5% in 2020, according to preliminary figures released by the National Statistical Office<sup>25</sup>. Damage limitation for the Eurozone's leading economy was achieved by massive state intervention to aid and support businesses and consumers. The recession was less severe than the one in 2009 following the financial crisis, when GDP fell by 5.7 per cent.<sup>26</sup>

Government intervention and falling tax revenues resulted in a record increase in the general government deficit to 4.8 per cent, the second highest level since reunification. In the end of 2020, the semi-lockdown with which Germany tried to contain the impact of the second wave of Covid-19 have costed the German economy €19.3 billion. Two and a half points of GDP in the fourth quarter of the year.<sup>27</sup> This was the prediction of one of the most prestigious economic research institutes, the DIW<sup>28</sup> in Berlin. A burden that will not fall in a balanced way on the entire German economy but will weigh heavily on the service sectors affected by the closures, such as gastronomy, hotels and tourism in general. For this segment, already severely affected by the first lockdown in March and April 2020 and

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<sup>25</sup> Destatis (Federal Statistic office of Germany) Available at: [www.destatis.de](http://www.destatis.de)

<sup>26</sup>Article. *In Germania la recessione da pandemia è stata del 5% nel 2020*. Available at: <https://www.ilsole24ore.com/art/in-germania-recessione-pandemia-e-stata-5percento-2020-ADRt4TDB>. Accessed on June,17 2021.

<sup>27</sup>MENNITTI, P. *Semi lockdown in Germania: costi per l'economia, polemiche e ricorsi*. 5 November 2020. StartMag Available at: <https://www.startmag.it/mondo/semi-lockdown-in-germania-costi-per-leconomia-polemiche-e-ricorsi/>. Accessed on June,17 2021.

<sup>28</sup> Deutsches Institut für Wirtschaftsforschung.

recovering in the summer months, a loss of EUR 5.8 billion was calculated in the four weeks of closures in November, equivalent to 55% of economic performance in this period.

The downturn was less harsh than in other large EU economies, however, mainly thanks to Germany's resilient manufacturers and huge support packages from Chancellor Angela Merkel's traditionally frugal government.

The German Retail Association<sup>29</sup> warned of a looming wave of bankruptcies that could see up to 50,000 stores to close in the end of 2021.

In small- and medium-sized businesses, often ranked as the backbone of the German economy, more than a million jobs are at risk.<sup>30</sup>

Merkel's government has over the past year unveiled over a trillion euros in rescue and stimulus funds to mitigate the pandemic shock, leaving its beloved no-new-debt rule to do so. Airline giant Lufthansa<sup>31</sup> and tour operator TUI<sup>32</sup> are among

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<sup>29</sup> Acronym: HDE

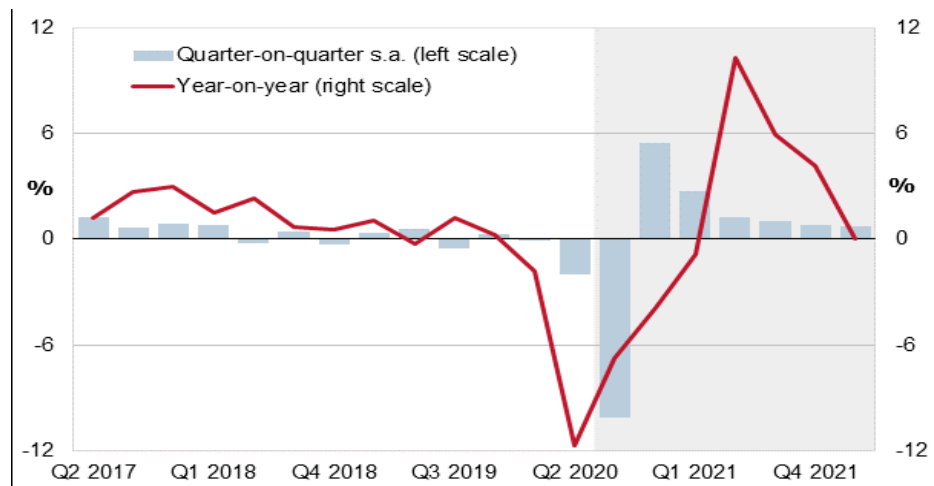
<sup>30</sup> *"Germany slashes GDP growth forecast as lockdown bites"*. French Press Agency – AFP. Jan 27, 2021. Available at : <https://www.dailysabah.com/business/economy/germany-slashes-gdp-growth-forecast-as-lockdown-bites>. Accessed on June, 19 2021.

<sup>31</sup> Germany's flag airline and biggest airline group in Europe.

<sup>32</sup> TUI AG ,also known as TUI Group, is a German multinational travel and tourism company headquartered in Hanover, Germany. It is the largest leisure, travel and tourism company in the world, and it owns travel agencies, hotels, airlines, cruise ships and retail shops. The group owns five European airlines – the largest holiday fleet in Europe – and several tour operators based in Europe.

those that have pushed the government for state aid, and millions of Germans are on financed short-time work schemes.

The growth of the GDP of course stopped in the first quarter of 2020, due to the first lockdown, then we assisted in a little increase with a wavy behaviour until now where the growth is shrinking as we can see in the next chart.<sup>33</sup>



1.2 Germany's economy growth amid Covid19; Destatis /Focuseconomics

<sup>33</sup> Quarter-on-quarter changes of seasonally adjusted GDP and year-on-year variation in %. Destatis. Available at: <https://www.focus-economics.com/countries/germany/news/gdp/gdp-contracts-at-record-steep-pace-in-q2-due-to-covid-19>. Accessed on June, 18 2021

### **1.4.3 The case of Italy**

Italy, which is one of the most affected countries in Europe in terms of cases and human lives lost, has seen a loss of GDP<sup>34</sup> of 8.8% by 2020. The causes are obviously the blockage of internal social and productive activities, but also the greater dependence of the economy on services compared to Germany, for example. Take tourism, for example, which is the sector most affected by the restraint measures.

In the first quarter of 2021 we have seen a further decline in economic output of -1.25% on a quarterly basis.

The Covid-19 crisis has raised Italy's public debt to 160% of GDP. At best, this figure could stabilise over the next two years.<sup>35</sup> Overall, risks remain strongly downward. The pandemic has not yet been overcome and living with the virus will continue to generate economic and social repercussions, depending on the ability of the affected countries to contain new outbreaks of infection and depending on the extent and timeliness of budgetary and monetary policy measures. Uncertainty has had also a big importance in the period.

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<sup>34</sup> Data available at : ISTAT. Italian statistics Bureau. [www.istat.it](http://www.istat.it)

<sup>35</sup> “Covid-19, l'impatto sull'economia italiana”. Available at: [https://www.eulerhermes.com/it\\_IT/news-e-approfondimenti/corporate-news/Covid19-impatto-sulla-economia-italiana.html](https://www.eulerhermes.com/it_IT/news-e-approfondimenti/corporate-news/Covid19-impatto-sulla-economia-italiana.html) . Accessed on June,18 2021

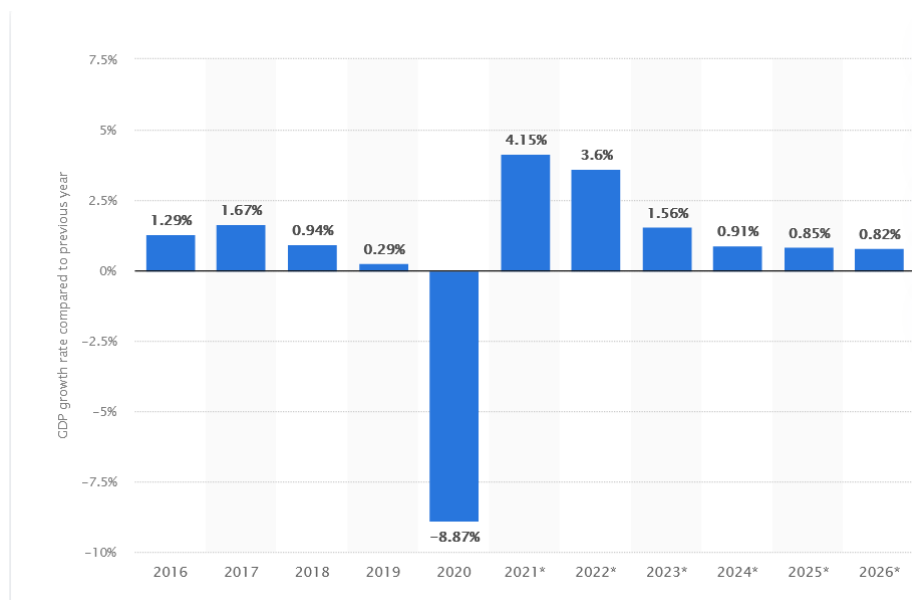
Uncertainty can significantly amplify the demand shocks generated by the pandemic. For example, during a crisis individuals tend to limit their spending to the bare minimum, postponing or cancelling it, and to increase precautionary saving, while companies postpone or cancel investment projects. Uncertainty is associated with other psychological factors that can affect current and future consumption and investment choices, such as a fall in confidence (generalised and/or in sectors) and the perception that possible policies to combat the crisis are insufficient, transitory or a prelude to the crisis.

First of all, the pandemic has spread in Italy some weeks ahead of other advanced economies. The social distancing measures introduced in our country were severe and involved first the closure of schools and the suspension of public events (March 5, 2020) then (starting from March 9) also limitations on the free movement of people within national borders and the closure of some commercial activities, and , from 28 March the stop of the industrial activities of several manufacturing sectors deemed not essential (so-called phase 1). Therefore, the lockdown at the beginning of March mainly affected the tertiary sector , and where possible companies looked for extensive use of work from remote (smart working).<sup>36</sup>

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<sup>36</sup>CAIVANO,V; LINCiano,N. “*La crisi Covid-19 Impatti e rischi per il sistema finanziario italiano in una prospettiva comparata*”(2020). CONSOB Report.

The Italian economy was going slow before the pandemic, and this hit the country in the worst moment. The graph below shows the trend of the GDP since 2019. The pandemic caused a big decrease of the GDP in 2020 of – 8.87%, and now shy signals of recovery are coming up together with Spain and Greece<sup>37</sup>, used referred as the PIGS economies.



1.3. Italy: Real gross domestic product (GDP) growth rate from 2016 to 2026. Statista

<sup>37</sup>Article.“Gentiloni, Pil sopra attese, Italia e Spagna trainano Ue”. ANSA. Available at: [https://www.ansa.it/sito/notizie/economia/2021/07/30/gentiloni-pil-sopra-attese-italia-e-spagna-trainano-ue\\_b7ff3325-1230-4442-9404-39e04ffa2583.html](https://www.ansa.it/sito/notizie/economia/2021/07/30/gentiloni-pil-sopra-attese-italia-e-spagna-trainano-ue_b7ff3325-1230-4442-9404-39e04ffa2583.html). Accessed on July,30 2021.



## 1.5 THE AIRLINE INDUSTRY

The airline industry has seen a big shock from the pandemic of Coronavirus.

It has been hit hardly mostly because the social distancing measures have impacted so badly on it.

Across all industries, the aviation sector is probably among the hardest hit . The unprecedented decrease in passenger demand (together with country-wise flight bans), led to a stop of most airlines<sup>38</sup>; many companies had to cease almost all their operations and grounded entire fleets. Many airports have closed their runways in order to free up space for aircraft parking or just shutting down indefinitely, most companies in the aviation sector are working with minimum staffing on strict rotations and aircraft builders and downstream industry have largely shut-down their production lines<sup>39</sup>. Overall, the impacts of COVID-19 are tremendous, as it can be seen by the number of reduced flights; nevertheless, the aviation industry has proven strong to major impediments in the past, including oil crises, financial crises, wars, natural disasters<sup>40</sup> and earlier diseases; it will likely find ways to

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<sup>38</sup> CHANGHONG,Z; WANDEL,T,S. “COVID-19 pandemic and air transportation: Successfully navigating the paper hurricane”(2021).

<sup>39</sup> ADRIENNE,L. *Journal of Air Transport Management* (2021)

<sup>40</sup> Such as the eruption of the Eyjafjöll Volcano in Iceland (2020), which paralyzed the air traffic in Europe.

overcome COVID-19, one way or another.<sup>41</sup> Yet, it is often ignored that the aviation sector is not only a victim of COVID-19, but also known to play a key role in the spread of diseases, enabling the turn of a (local) epidemic into a (global) pandemic as it was observed already for several earlier diseases, such as, Ebola, SARS/MERS, seasonal influenza and Malaria/Dengue fever ,most of which were contained before turning into a full pandemic on the scale of COVID-19.<sup>42</sup>

However, while the overheated marketplace and the cyclical nature of the industry had many forecasting an end to the good times, no one in or outside the industry predicted an exogenous shock of such scale and global reach that the COVID-19 pandemic has created on the world.

### **1.5.1 Overview on the European air sector**

Every year, new aircrafts join the European fleet to accommodate growth and replace old aircraft that are getting closer to the end of their lifecycle.

Following the economic crisis in 2008, retirement of aircraft jumped to over 6% of the fleet in 2008 and 2009 from less than 3% between 2004 and 2007, and low-cost

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<sup>41</sup> TRUXAL,S (2020). “*State aid and air transport in the shadow of COVID-19*” Air Space Law. pp. 61-82

<sup>42</sup> SUDRE,B ; SEMENSA S.B.; “*International dispersal of dengue through air travel: importation risk for Europe*”; pp. 1-12

carriers had a rapid expansion. This caused a reduction in the average aircraft age per flight.

The average aircraft age remained stable for a period but has increased from 10.3 years in 2014 to 10.8 years in 2017, as we can see in the graph below.

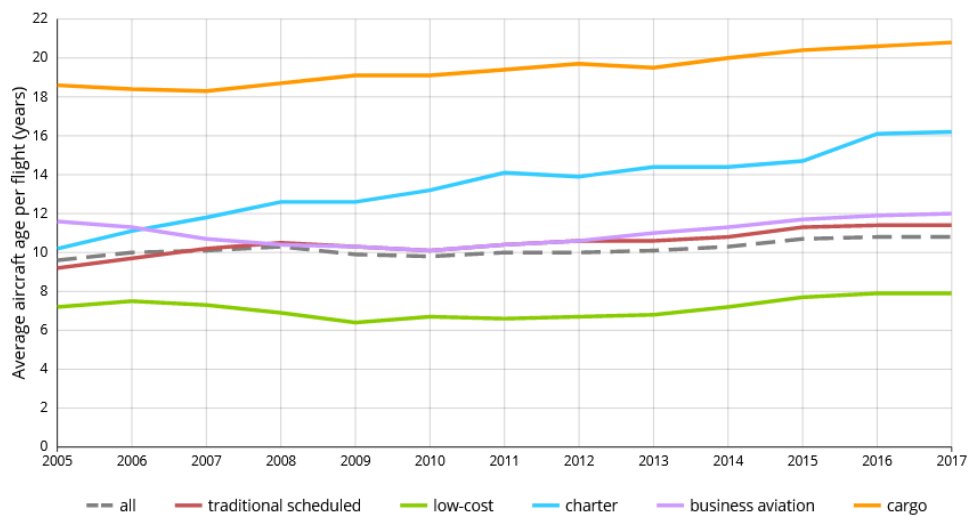


Figure 1.4. Average aircraft age per flight increased in 11 years. Source: EASA

This increase in average age has been limited, in spite of a return to growth, by low-cost and traditional scheduled carriers investing in new aircraft such as the A320neo<sup>43</sup> and B737 MAX families<sup>44</sup>. The rapid expansion of business aviation up to 2008 was accompanied by the entry into service of new aircraft, but business

<sup>43</sup> Easyjet’s fleet is completely made by Airbus aircrafts, and now the last order was only by A320neo.

<sup>44</sup> For example, the whole fleet of Ryanair is made by only Boeing 737-800 aircrafts and now by B737-8MAX.

aviation declined sharply with the economic downturn, which led to more frequent use of the existing aircraft and a gradual ageing of the fleet. It is important to say that new aircraft represent important costs for airlines, and a sufficient operational lifetime is required to ensure a return on their investment.

The aviation industry is evolving, with existing and new start-up companies investing heavily in novel technology. There were recent developments of electric and hybrid engines, and ideas to enhance urban mobility have also emerged, including fully autonomous aircraft that can provide rapid point-to-point connectivity.

## 2. AIR INDUSTRY IN EUROPE:MANAGING THE CRISIS

### 2.1 ANALYSIS OF THE AIR INDUSTRY IN EUROPE

The Covid-19 crisis is an unprecedented shock for global air transportation.<sup>45</sup> According to IATA, data it is even “the worst crisis in the history of aviation”, far ahead of the events of 9/11 or the economic crisis of 2009<sup>46</sup>. It is true that estimations of the drop-in passenger air transport activity are overwhelming: despite a temporary rebound in June and July 2020 (due to the policies put in place after the lockdown ended), air traffic for the whole of 2020 is has been 66% lower than in 2019, according to the latest IATA report<sup>47</sup>. Beyond the health crisis, the strong economic recession in the world in 2020, in the order of 5%, has undoubtedly impacted air transport, whose activity is strongly correlated to economic growth. This drop in traffic must be compared with the structure of costs, partly composed of fixed costs, and airline revenues: whereas since the

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<sup>45</sup> DUTHEIL,G. “*Coronavirus: Airbus et l’aéronautique s’enfoncent dans la crise*”. Le Monde.29 April 2020.

<sup>46</sup> IATA: International Air Transportation Association; it is a trade association of the world's airlines founded in 1945. IATA has been described as a cartel since, in addition to setting technical standards for airlines, it also organized tariff conferences that served as a forum for price fixing. Available at:[www.iata.org](http://www.iata.org)

<sup>47</sup>.*Air traffic 2019-2020 Report*. IATA. Available at: <https://www.iata.org/en/pressroom/pr/2021-02-03-02/>. Accessed on June,21 2021.

beginning of the health crisis, costs have fallen by 55%, revenues have fallen by 80%, leading to massive losses.

The recovery in air traffic will be very gradual, with a return to pre-crisis levels only expected in 2024. The recovery will initially be seen on medium-haul routes and will primarily concern leisure and affinity customers.

In this unique context, most airlines, both in Europe and worldwide, grounded a few of their planes, which means they had to bear high-fixed costs. The challenge is then for airlines to have access to enough liquidity, to hold on, in order to survive for several months. In this race for cash, all instruments are now being mobilised by companies, whether to put in place the non-reimbursement of tickets (and their transformation into vouchers<sup>48</sup>), massive recourse to part-time working, the appeal for mass layoffs (like at British Airways), reduction of fixed structural costs, use of cash reserves or borrowing, renegotiation with aircraft rental companies, manufacturers and fleet financing bodies.

For example, Lufthansa has made the decision to significantly reduce the size of its fleet of 150 aircrafts<sup>49</sup> (out of a total of 760, a decrease of 20%) and cut 22,000

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<sup>48</sup> To preserve their cash, the airlines are offering flight postponements or “credit notes”, which I called vouchers, instead of refunds.

<sup>49</sup> COPLEY,C. “*Lufthansa steps up cuts to fleet and staff as outlook dims*”. September,21 2020. Reuters. Available at: <https://www.reuters.com/article/lufthansa-strategy-idUSKCN26C29V>

jobs<sup>50</sup> (so approximately 16% of its total workforce). In this respect, not all airlines are in the same situation, both in terms of resilience and in access to public support.

### **2.1.1 Resilience and access to public supports**

In first place, the so-called “flag-carrier<sup>51</sup>” companies in a critical financial situation owe their survival to government support, in the form of secured loans or equity investments. The Dutch, French, German, Italian and Norwegian governments supported the legacy carrier at all costs, even including a temporary nationalisation scenario (in Italy, for Alitalia, the country’s most important airline). It is important to notice, however, that a legacy airline such as British Airways<sup>52</sup> (IAG Group<sup>53</sup>) has not yet applied for public support but carried out a capital increase of 2.75 billion pounds.

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<sup>50</sup> BOSLEY,C. “*Lufthansa Weighs Cutting More Jobs as Travel Slump Endures*”. August,30 2020. Bloomberg. Available at: <https://www.bloomberg.com/news/articles/2020-08-30/lufthansa-said-to-weigh-more-cuts-to-jobs-costs-nzzams>. Accessed on June,21 2021.

<sup>51</sup> I.E: Alitalia, Lufthansa, Air France

<sup>52</sup> The UK’s leading airline.

<sup>53</sup> IAG(International Airlines Group) is an Anglo-Spanish multinational airline holding company with its registered office in Madrid, Spain, and its global headquarters in London, England. It was formed in January 2011 after a merger agreement between British Airways and Iberia, the flag carriers of the United Kingdom and Spain respectively, when British Airways and Iberia became wholly owned subsidiaries of IAG. British Airways shareholders were given 55% of the shares in the new company.

In second place , many small companies are in great financial difficulty, such as Air Italy<sup>54</sup>, which did not receive public aid and were quickly forced into bankruptcy, so the bankruptcy scenario is not that far for many companies. Lastly, there are some European companies that have sufficient financial strength to face the crisis. This is particularly the case of large low- cost airlines such as Ryanair<sup>55</sup>, Wizz Air<sup>56</sup> and also easyJet, who will be able to survive on their cash flow, obtain bank loans or “sale and lease back<sup>57</sup>” their aircrafts.

The European market, in a situation that was already fragile before the health crisis and with overcapacities on many routes, will undoubtedly experience a strong restructuring movement, following the bankruptcy of small operators and the erosion of large incumbent companies, forced to downsize.

This movement seems to be unavoidable, regardless of the recovery scenario of traffic in Europe.

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<sup>54</sup>Air Italy was a privately owned Italian airline, headquartered in Olbia, Sardinia. In 2019 the company was the second largest airline in Italy, following Italy's flag carrier Alitalia, and the 40th largest airline in Europe by number of passengers as of 2019.

<sup>55</sup>Europe's biggest low-cost airline born in Dublin, Ireland.

<sup>56</sup>Europe's third low-cost airline based in Budapest, Hungary. Wizz Air also created a branch in the United Arab Emirates in 2020, with Wizz Air Abu Dhabi Ltd.

<sup>57</sup>Under a sale-leaseback arrangement, the aircraft owner sells the aircraft to the lender or lessor who then immediately leases the aircraft back to the original owner. There will be no interruption or disruption of aircraft operations, but the transaction should give the company some extra cash.



### **2.1.2 Market capitalisation during the Covid-19 crisis**

The financial markets have naturally integrated these structural differences in the financial health of airlines long before the Covid-19 crisis.

Indeed, throughout 2019, the market value of low-cost players has risen sharply (+ 33% if the three market capitalisations – EasyJet, Ryanair, Wizz Air – are compiled, compared with -2% if the capitalisations of International Airlines Group, Air France-KLM and Lufthansa are compiled).<sup>58</sup>

To measure performance gaps, an airline like Ryanair was worth on average 3 to 4 times the market value of a group like Air France-KLM in 2019. Also, since the beginning of 2020, under the effect of the coronavirus crisis, stock market sanctions seem to be fairly differentiated, between legacy carriers who have lost between 35 and 67% of their market value and ultra-low-cost chiefs whose market capitalisation has only fallen slightly. In November 2020, Ryanair's market capitalisation was equivalent to almost 10 times that of Air France-KLM's.<sup>59</sup>

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<sup>58</sup> The case of easyJet is atypical: the fall in the share price is partly explained by a governance battle led for several weeks by one of the company's heads calling into question certain strategic choices made by the management team, particularly regarding orders for new Airbus aircrafts (A319/A320).

<sup>59</sup> Macro Trends Research. Ryanair capitalisation 2006-2021. Available at: <https://www.macrotrends.net/stocks/charts/RYAAAY/ryanair-holdings/market-cap> .Accessed on June,24 2021.

### **2.1.3 The market structure in Europe**

The Covid-19 crisis occurred in Europe in a context evidenced by a limited profitability. This is particularly true if we take in consideration, only European medium-haul market(up to 3 hours flights) , which does not perform as well as the long-haul market. In fact, in the recent years many small and medium haul airlines got bankrupt: Aigle Azur(France), WoW Air (Iceland), Small Planet Airlines(Lithuania) and Germania(Germany) to name but a few.

However, in terms of profitability, not all European airlines are in the same situation: while several legacy operators such as Air France-KLM or Lufthansa will survive thanks to massive public support (example Alitalia); some low-cost operators such as Ryanair or Wizz Air will be able to get through the crisis by relying on on their reserves.

## **2.2 LOW PROFITABILITY OF AIR SECTOR IN EUROPE**

The greatness of the impact of the Covid-19 on airlines can be explained by a reason specific to the sector: air transport is a high-volume industry but low-margin one. For the year 2019, the worldwide operating margin was 5.8%, even at the top of the cycle which corresponds to a profit per passenger of only \$6.85.<sup>60</sup> This structural weakness in margins come from the fact that natural barriers to entry are low, different from other sectors such as pharmaceuticals or automobiles. Indeed, excluding the availability of time slots at large airports<sup>61</sup> and, for certain international flights, the conceding of traffic rights by States, there are no major barriers to entry: a new airline, for example, can be launched with a few investments by leasing aircrafts. To use an economic terminology, air transport is like a “contestable market”: the possibility for a new player to enter the market quickly brings to a constant pressure on prices and margins.

In order to regain some of the market power, established companies have no choice but to lower their costs or to control a hub and network of alliances in order to limit the development of new entrants.

Another factor is that air transport is a sector composed by fixed and semi-fixed costs. The fixed or semi-fixed costs come from the payment of salaries (especially

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<sup>60</sup> IATA, 2020. Available at :[www.iata.org](http://www.iata.org)

<sup>61</sup> For Example, London Heathrow Airport (LHR), Europe’s most congested airport.

of pilots and cabin crews), aircraft rentals (when not in full ownership, so in many cases, for example Ryanair), aircraft maintenance, and debts. These fixed costs make about 50% of the operating costs of a conventional airline. A reduction in activity (and especially a drop in the load factor )quickly leads to losses. As a result, every year new companies are created, while others, often small ones, leave the market. In 2019, which was a good year in terms of profitability, approximately 23 airlines worldwide have ceased operations and in 2020 it got worse.<sup>62</sup>

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<sup>62</sup> SLOTNIK, S. “*Some of the world's airlines could go bankrupt because of the COVID-19 crisis, according to an aviation consultancy(2020).* Business Insider. Available at: <https://www.businessinsider.com/coronavirus-airlines-that-failed-bankrupt-covid19-pandemic-2020-3?r=US&IR=T->. Accessed on June 21,2021.

## **2.3 CONCENTRATION IN THE EUROPEAN AND AMERICAN MARKET**

Even if the profitability of air transport is generally low, the profitability of European air companies, which was in line with the world average in 2019, contrasts with that of their American counterparts, which was more than double at 9.6%.<sup>63</sup>

### **2.3.1 American market**

This distinguished situation can be explained by the evolution of the American market over the last 20 years: during the period 2000 – and especially after the September,11 attacks and the recession of 2008/2009 – American air companies experienced a period of losses, which brought to numerous bankruptcies. The result has been a process of market concentration around four main companies (American Airlines, Delta, Southwest, United). In 2019, the top four operators in the U.S. domestic market had, in terms of the number of passengers, a market share of 64,6%<sup>64</sup> as we can see in the next graph.

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<sup>63</sup> BUSHEY, C; GEORGIADIS, P. July,23 2021. “*US airlines return to profit as European counterparts languish*”. Financial Times. Available at: <https://www.ft.com/content/695513ae-4473-4cc0-b316-c7aad3c05695>. Accessed on July 28,2021.

<sup>64</sup> Statista, 2020. Available at: <https://www.statista.com/statistics/250577/domestic-market-share-of-leading-us-airlines>. Accessed on June,23 2021.

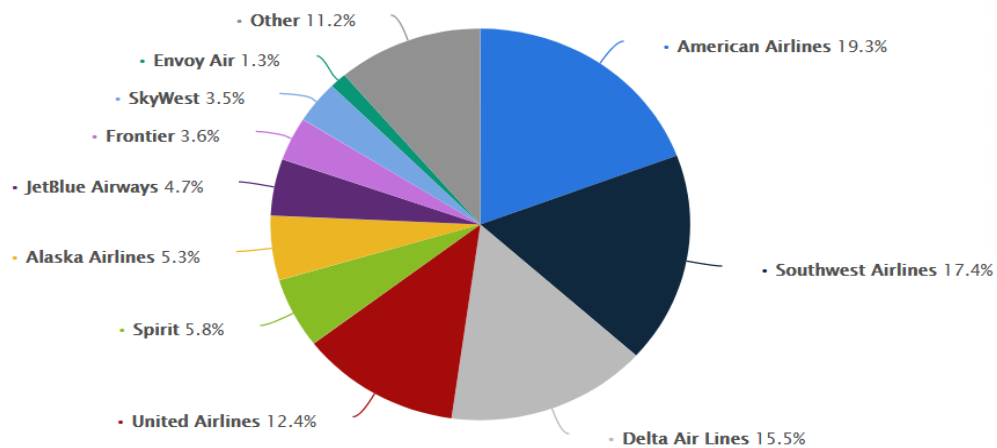


Figure 2.1. Market share of American companies; Source: Statista (2020)

Moreover, among these four players, only one is a “middle cost” operator (Southwest Airlines<sup>65</sup>) able to drive price competition. The other low-cost operators, such as Jetblue, Frontier and Spirit Airlines, are smaller. This high concentration of the American market has also caused concern, as it results in an increase in the average ticket price.

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<sup>65</sup> Southwest is the world’s biggest low-cost airline. Europe’s counterpart is Ryanair, leading the low-cost traffic in the continent, as explained in other parts of this paper.

### 2.3.2 European Market

In contrast, the European market is for the moment a little less concentrated than the American domestic market. The top four airlines (Lufthansa, Ryanair, IAG and easyJet) account for 57% of the intra-European market. Among the four leaders in the sector in Europe, two are “low-cost”, including one “ultra-low-cost” (Ryanair), which contributes strongly to stimulating price competition. Making a comparison with the US, the leading ultra-low-cost carrier, Spirit Airlines, has a market share of 3% and is only in 8th place in terms of seats offered. If we take in consideration the number of passengers carried on medium-haul flights, it is worth to notice that Ryanair was until 2019, the leading European carrier, up ahead of Lufthansa as we can see in the graph below.



2.2. Source: Roland Berger, Bureau of Transportation Statistics. Innovata (2019)

## 2.4 THE ACTORS OF THE EUROPEAN MARKET

In addition to the least market concentration among the top 5 of these airlines, Europe is described by a very large number of small players. This lower concentration seems to be highly marked on medium-haul sector compared with long-haul. Indeed, on long-haul, mergers have already taken place, in form of alliances, joint ventures (especially on transatlantic flights), bilateral agreements, while traffic rights limit the access of new players.<sup>66</sup>

Conversely, on medium-haul routes, there have been more than a hundred airlines in Europe in 2020, with market shares of 1% or less; this is mainly because each European country has more or less one flag carrier, often coming from the past, and has seen the creation of at least one low-cost operator on its territory. For example, Romania has a national airline, TAROM<sup>67</sup>, which operates a fleet of 26 aircrafts and carried 2.7 million passengers in 2018; it also has a low-cost airline, Blue Air, which carried 3.9 million passengers.<sup>68</sup>

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<sup>66</sup> Joint venture agreements. European Parliament Resolution of December,22 2016. Available at: [https://www.europarl.europa.eu/doceo/document/E-8-2016-009761\\_EN.html](https://www.europarl.europa.eu/doceo/document/E-8-2016-009761_EN.html).

<sup>67</sup> TAROM is the national airline and the oldest currently operating airline in Romania, based in Otopeni near Bucharest. As of 2021, it is the first and largest airline operating in Romania on the basis of international destinations, international flights and the third in terms of fleet size and passengers carried.

<sup>68</sup> Blue Air Corporate official website. Available at: <https://corporate.flyblueair.com/2020-timeline/>. Accessed on June,23 2021.



### 2.4.1 The role of small players

Achieving a vital size is a necessary (though not enough) condition for profitability in air transport sector, for at least three reasons.<sup>69</sup>

The first reason is the commercial attractiveness of a dense network, particularly for business customers and city breaks: a large size permits a presence in all main European airports, with local bases that generate traffic in both directions (import and export), offers good frequencies and schedules (especially in the morning and at the end of the day), and is supported by an attractive loyalty.

The second reason is economic: air transport has high fixed costs, which are not limited to aircraft rent and maintenance, but also include marketing costs or structural costs (for example: reservation system, etc.). An increase in size therefore permits to spread a portion of the fixed costs on a wider base.

The third reason is more specific to the legacy airlines<sup>70</sup>, which also offer a long-haul service and a system of connections from a hub. The density of the domestic and intra-European routes is strategic to give credibility to the hub, by offering reduced waiting times between two flights, and to fill long-haul flights, especially by adding “small flows”.

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<sup>69</sup> “*What is the aviation industry?*” Revfine. Available at: <https://www.revfine.com/aviation-industry>. Accessed on June,25 2021.

<sup>70</sup> A legacy carrier is an airline that has a long history that usually originates at some point in the first half of the 20th century.

### **2.4.2 Airlines' bankruptcies in Europe**

Due to the lack of critical size of many operators, it is surprising that, even in periods of good global profitability, Europe regularly has bankruptcies of small airlines: for example, in 2019 (so before the Covid-19 crisis), 23 airlines went bankrupt worldwide<sup>71</sup>, 9 of which were European. We can notably mention Aigle Azur (France), XL Airways (France), FlyBMI and Thomas Cook (United Kingdom), Germania (Germany) or Wow Air (Iceland). By 2018, Monarch, Condor and Air Berlin<sup>72</sup> also got bankrupt.<sup>73</sup>

However, large size is not the only condition for profitability, especially in the short-medium-haul segment. Among the major players on the market, it is necessary to make distinction between the situation of legacy carriers (such as Alitalia or Lufthansa), which are in a delicate situation, and that of large low-cost operators, which are very profitable. The impact of the Covid-19 crisis on these different companies is likely to be quite differentiated.

Air transport appears to be less concentrated in Europe than in the United States and is less profitable. This situation is due both to the lower market share of the

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<sup>71</sup> As already said in paragraph 2.2

<sup>72</sup> Germany's second low-cost airline after the former Germanwings(now Eurowings)

<sup>73</sup>Article. "*The airlines that stopped flying in 2019*". December,12 2019. The Independent. Available at:<https://www.independent.co.uk/travel/news-and-advice/airlines-bankrupt-stop-flying-flight-thomas-cook-flybe-adria-a9242741.html>. Accessed on June,21 2021.

four leaders<sup>74</sup> in the sector, but also to the existence of a very large number of small players. In such situation and market situation, the Covid-19 crisis will set off a restructuring in Europe, whether by the slow destruction of certain players, bankruptcy, or takeover.

## **2.5 THE TROUBLE OF HISTORIC AIRLINES**

The three major historical leaders in Europe – Air France-KLM<sup>75</sup>, Lufthansa and IAG – are present in two different passenger transport markets: the short /medium-haul segment<sup>76</sup> and the long-haul segment, mainly from their hubs.

For the past two decades, flag airlines have been challenged by a new model, which conquered 40% of market share and which is spreading across the entire European continent: low-cost. Met with this disruption, flag airlines have reacted in different ways.

Some, like Alitalia, have not changed their model and are now facing big problems and near the bankruptcy. After many recapitalisations in recent years (2005, 2009,

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<sup>74</sup> See paragraph 2.3.1

<sup>75</sup> Air France-KLM S.A. (Euronext: AF) is a Franco-Dutch holding company.

In 2007, according to Air Transport World magazine, it was the world's largest airline in terms of operating revenue and operating profit. Air France-KLM was created through a consensual merger between the airlines Air France (French) and KLM (Dutch) on 5 May 2004.

<sup>76</sup> Flights lasting less than 4 hours.

2013), the Italian company was placed under trusteeship in mid-2017 following the refusal by employees of a restructuring plan in an internal referendum.<sup>77</sup>

On the contrary, other flag carriers have chosen to trust their entire point-to-point medium-haul network<sup>78</sup> to a dedicated and low-cost subsidiary: this is the case of the IAG group with its Vueling<sup>79</sup> subsidiary. IAG uses medium haul only to supply its hubs, under its Iberia, British Airways, and Aer Lingus<sup>80</sup> airlines.

Lufthansa has entrusted its subsidiary Eurowings with all point-to-point flights, while the hubs<sup>81</sup> are still operated with the Lufthansa brand.

Regarding Air France-KLM, a small portion of its point-to-point flights has been delegated to a low-cost subsidiary, Transavia<sup>82</sup>.

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<sup>77</sup> Article. “*Referendum Alitalia, vince il no: più vicino il commissariamento*”. April,24 2017 (In Italian). Il sole 24 ore. Available at : <https://www.ilsole24ore.com/art/referendum-alitalia-vince-no-piu-il-commissariamento-AEC2QcAB>. Accessed on June,26 2021.

<sup>78</sup> Point-to-point transit is a transportation system in which a plane travels directly to a destination, rather than going through a central hub.

<sup>79</sup> Vueling, is a Spanish low-cost airline of International Airlines Group(IAG) based in El Prat, Barcelona, Spain.

<sup>80</sup> Aer Lingus is the flag airline of Ireland. Founded by the Irish government, it was privatised between 2006 and 2015 and is now a subsidiary of the IAG Group. The company is based at Dublin International Airport.

<sup>81</sup> Lufthansa’s main hub is Frankfurt am Main airport(FRA).

<sup>82</sup> Transavia Airlines is a Dutch airline that operates as an independent part of the Air France-KLM group and operates low-cost flights. Its main hub is Amsterdam-Schiphol airport.

In terms of profitability, IAG seems to be more profitable than Air France-KLM and Lufthansa. Its net income was 6.7% in 2019 compared with 3.3% for Lufthansa and 1% for AF KLM.<sup>83</sup>

### **2.5.1 Lufthansa's subsidiary: Eurowings**

While it is difficult to obtain an exhaustive view of the profitability of short/medium-haul business, several financial indices conclude that this business is highly financially fragile.

Lufthansa's low-cost subsidiary, *Eurowings*, was making losses until 2018.

It was born after the disaster of the flight 9525 operated by the former Germanwings; after this episode the company was at first place merged and then totally re-branded as Eurowings.

It has a cost structure that is not consistent with its revenue structure. Eurowings had a cost per seat kilometre<sup>84</sup> of 6.6 cents in 2018 in the medium-haul segment, which is higher than the level of another low-cost, easyJet.

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<sup>83</sup>Centre for Aviation operations report. Report,2019. CAPA. Available at: [www.centreforaviation.com](http://www.centreforaviation.com). Accessed on June,27 2021.

<sup>84</sup> CASK: *Cost of Available Seat Kilometer*, is used to measure the unit cost expressed in cash value to operate each seat for every kilometre. The lower the CASK value would mean that it's easier to earn revenue. To get the CASK, direct operational cost is divided by the available seat per kilometre.

On the other hand, revenue per seat kilometre<sup>85</sup> does not cover the CASK, which explains Eurowings' losses in 2018.

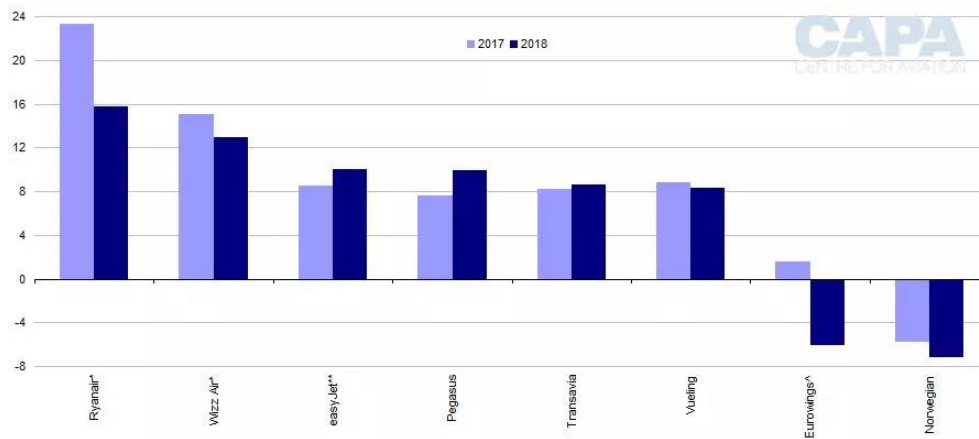


Figure 2.3. Low-cost margins in 2017/2018. Source: CAPA

<sup>85</sup> RASK: *Revenue per Available Seat-Kilometer*. To calculate for system wide load factor, simply divide the Revenue Passenger Kilometer by the Available Seat per kilometre. To get the load factor for individual flight, get the quotient of the revenue passengers on board divide it by the aircraft capacity.

### **2.5.2 The call for public assistance**

Given the size of the Covid-19 crisis and the financial troubles of certain big legacy carriers in Europe, public financial support appeared inevitable for Air France-KLM and Lufthansa groups. To calculate the need for support, it is good to estimate the capability of operators to overcome the crisis over time, without having any activity and without using external resources, for example by relying only on their cash reserves and credit lines already subscribed. Making an example, at the beginning of the Covid-19 crisis, Ryanair's liquid assets represented 47% of its annual revenue<sup>86</sup>, so the equivalent of 170 days of "resilience"<sup>87</sup>; this only lasted for 81 days for Air France-KLM, i.e. less than 90 days, and only 51 days for Lufthansa. With a different methodology, Crédit Suisse arrives at a different result but confirms the fragility of the legacy carriers: without any measures, Lufthansa had 25 days of cash flow and Air France-KLM 69 days at the beginning of the crisis.<sup>88</sup>

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<sup>86</sup> Ryanair annual report 2020. Ryanair. Available at: <https://investor.ryanair.com/results/> Accessed on June,29 2021.

<sup>87</sup> Resilience meant as the capability of operators to overcome the crisis over time, without having any activity and without using external resources.

<sup>88</sup> "10th Operations Efficiency Radar Report". Roland Berger foundation. February,2019. Available at:[https://www.rolandberger.com/publications/publication\\_pdf/roland\\_berger\\_operations\\_efficiency\\_radar\\_brace\\_for\\_economic\\_slowdown.pdf](https://www.rolandberger.com/publications/publication_pdf/roland_berger_operations_efficiency_radar_brace_for_economic_slowdown.pdf). Accessed on June,27 2021.

The call for public support is therefore inescapable and justified from an economic standpoint.

### **2.5.3 The problems of large legacy companies**

First Of All, it is difficult for large historical companies to reduce their fixed costs, which on average represent half of their total costs. They can, of course, cut out employees, cancel aircraft orders (subject to penalties) or resell aircrafts.

They can also decide to avoid the payment of dividends, not to refund customers to avoid cash outflows, by offering them a credit note on a future ticket, but this choice violates the European directive on passenger rights<sup>89</sup>, which provides that in the event of cancellation, passengers have the choice between a refund and a credit note. However, even by mobilising these various switches, the sources of fixed cost reductions remain limited, given the large share of personnel costs: 40% for Air France, 30% for Lufthansa and IAG, compared with only 24% for Ryanair.<sup>90</sup>

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<sup>89</sup>EU air passenger rights declaration. European Parliament. Available at: [https://europa.eu/youreurope/citizens/travel/passenger-rights/air/index\\_en.html](https://europa.eu/youreurope/citizens/travel/passenger-rights/air/index_en.html); Accessed on June,27 2021.

<sup>90</sup> European airline labour productivity: CAPA rankings. Centre for Aviation. 2019. Available at: [www.capa.com](http://www.capa.com); Accessed on June, 28 2021.



In second place , the social price of the bankruptcy of a large company is probably higher than its private cost. Certainly, from a theoretical point of view, one could consider that bankruptcy brings to the replacement of the existing carrier by a new operator, which is the “natural” mechanism for solving crises in a market economy. However, the costs of transition and reorganisation are not low: removing tens of thousands of employees from work, even temporarily, is a cost to the community. To be clearer the concept is that the larger the operator, the higher the social cost of bankruptcy.

Finally, this need for public aid is justified by the fact that other major historic companies in the world will also receive support from their States.

This is the case of American companies, which have asked the Federal State for support up to 50 billion dollars, even though they are now the most profitable in the world<sup>91</sup>. If other countries support their legacy carriers, Europe’s best response is to do the same with its own operators.

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<sup>91</sup> “2020 CARES Act Grants Airports”. Federal Aviation Administration(FAA). Available at: [https://www.faa.gov/airports/cares\\_act/](https://www.faa.gov/airports/cares_act/). Accessed on June,28 2021.

## **2.6 THE ACTIONS OF THE EUROPEAN NATIONAL GOVERNMENTS**

As of June 2021, European governments have already taken several measures for save-protecting the national airlines and their life and operations.

The governments and the European Union have a big role in this crisis, as we have seen with Alitalia or Lufthansa.

These public aids have been also a heavy topic of discussion with the European Antitrust<sup>92</sup> mainly for the Alitalia case.

On top of this public aids, companies have made more or less marked adjustments in size and remuneration, with the aim of reducing their fixed and variable cost base. These adjustments are taking place against a background of a sustained decrease in air traffic in Europe, which has resulted in significant losses for the incumbent companies in the first half of 2020: €1.55 billion for Air France-KLM, €3.6 billion for Lufthansa and €3.8 billion for IAG.<sup>93</sup>

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<sup>92</sup> Within the European Commission, there is the Competition Directorate-General ,that is primarily responsible for exercising these powers.

<sup>93</sup>Profit and loss of commercial airlines worldwide from 2010 to 2021. Statista. Available at: <https://www.statista.com/statistics/275603/profit-loss-of-commercial-airlines-worldwide/>. Accessed on June,21 2021.

### **2.6.1 The actions of France**

The French government took the decision in March, 2020 to grant Air France €7 billion in aid. This aid consists of two loans: firstly, a €4 billion French State Guaranteed Loan<sup>94</sup>. This 90% guaranteed loan is granted by a combination of 9 banks with an initial maturity of 12 months, with an extension option of 1 or 2 years exercisable by Air France-KLM group.

Some total prepayment conditions have been added in certain cases, such as a change of control of Air France-KLM or Air France.<sup>95</sup> Secondly, the aid consists of a second loan of €3 billion, granted by the French Government. As with the PGE, necessary early repayment conditions have been added to this loan. In addition to Air France, the State is also in discussions with Corsair for a PGE aid that should exceed €100 million. An initial aid was refused in the spring of last year, by the management due to the conditions, which were considered too restrictive; The company has also accepted not to pay dividends until these loans have been fully repaid.

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<sup>94</sup> Acronym: PGE

<sup>95</sup> On 4 May 2020, the European Commission approved this state aid. See the European Commission press release: “*State aid: Commission approves French plans to provide €7 billion in urgent liquidity support to Air France*“, 4 May 2020. Accessed on June, 29 2021.

### **2.6.2 The actions of Germany on Lufthansa group**

In the second quarter of 2020, Member States and third countries have implemented travel restrictions necessary to face the health crisis. This has resulted in a heavy decline in travel, with a significant effect on the entire Lufthansa Group's carriers: Lufthansa, Swiss International, Brussels Airlines, Austrian Airlines, Air Dolomiti, Eurowings, Germanwings, Edelweiss Air and SunExpress Deutschland.

The German government has given €9 billion in aid to Lufthansa<sup>96</sup>. This is being channelled through the Federal Economic Stabilisation Fund<sup>97</sup> in the form of “*silent participations*”<sup>98</sup> of up to €5.7 billion (€4.7 billion of which are in equity). Lufthansa had been locked in talks with Berlin for weeks on the aid it needs to survive a protracted travel decline, with the airline arguing over how much control to yield in return for financial support.

The remainder of the aid granted to the company takes the form of a capital increase of up to 20% of the share capital of Deutsche Lufthansa AG, with WSF accepting to sell its entire stake at the market price by December,31 2023. The remaining aid

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<sup>96</sup> SWENEY,M .“*Lufthansa agrees €9bn bailout with German government*”. 26,March 2020. The Guardian. Available at: <https://www.theguardian.com/business/2020/may/26/lufthansa-9bn-bailout-german-government-coronavirus-flights>. Accessed on June,29 2021.

<sup>97</sup>Acronym: WSF

<sup>98</sup>Silent” participation is closer in legal form to an equity investment than subordinated or participating loans. In this form of financing one or more persons take an equity stake in a company, but without assuming any liability to the company's creditors.

is supplemented by a credit facility of up to €3 billion with the participation of KfW and banks for a period of 3 years.

The measure was approved also by the European Commission on March, 19 2020 as amended on 3 April and 8 May 2020.<sup>99</sup>

### **2.6.3 The actions of the Italian government with Alitalia**

Alitalia is the major network airline operating in Italy. With a fleet of over 95 planes, in 2019 the company operated hundreds of routes all over the world, carrying about 20 million passengers from its main hub in Rome Fiumicino and other Italian airports to various international and intercontinental destinations. Since the start of the coronavirus outbreak, Alitalia has suffered a significant reduction of its services, resulting in high operating losses.

By a decree issued in March 2020, the Italian government planned to take control of Alitalia, injecting €600 million to keep the company alive. Alitalia was almost out of money, even if it had already received 400 million Euros from the Italian government at the beginning of 2020. In the beginning of September 2020, new

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<sup>99</sup>Article. “*State aid, Commission approves €6 billion German measure to recapitalise Lufthansa*”. European Commission, June, 25 2020. Available at: [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_1179](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1179). Accessed on June, 29 2021.

public aid of 200 million Euros was provided to compensate for the losses caused by the pandemic<sup>100</sup>.

In September 2020, The European Commission declared Italian government's €199.45 million support in favour of Alitalia to be in line with EU State aid rules. The measure aimed at compensating the airline for the damages suffered due to the coronavirus outbreak.<sup>101</sup>

The Commission assessed the measure under Article 107/2<sup>102</sup> of the Treaty on the Functioning of the European Union (TFEU), which enables the Commission to approve State aid measures granted by Member States to compensate specific companies or sectors for damage caused by exceptional occurrences, such as the pandemic.

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<sup>100</sup> DRAGONI, D. Article. "*Alitalia nazionalizzata: nasce newco al 100% pubblica. Stanziati fino a 500 milioni*". Il sole 24 Ore (In Italian). 17, March 2020. Available at: [https://www.ilsole24ore.com/art/alitalia-stanziati-fino-500-milioni-la-nuova-societa-pubblica-ADEVoBE?refresh\\_ce=1](https://www.ilsole24ore.com/art/alitalia-stanziati-fino-500-milioni-la-nuova-societa-pubblica-ADEVoBE?refresh_ce=1). Accessed on June,21 2021.

<sup>101</sup> Article. "*State aid: Commission approves €199.45 million Italian support to compensate Alitalia for damages suffered due to coronavirus outbreak*" (04,September 2020). European Commisison. Available at: [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_1538](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1538); Accessed on June,21 2021.

<sup>102</sup>Article 107 (ex-Article 87 TEC). Title VII: Common rules on taxation and approximation of laws. Chapter 1: Rules on competition - Section 2: Aids granted by States. For full article text is available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:12008E107&from=EN>. Accessed on June,21 2021.

#### **2.6.4 The role of other European governments**

Unlike other European countries, Spanish government was the one of the latest to give aid to its airlines. Regarding the IAG group (British Airways, Iberia, Vueling and Air Europa), State aid came from the Spanish government which lent 750 million euros to Iberia and 260 million euros to Vueling<sup>103</sup>. These loans are 70% guaranteed by Spanish government.

Regarding Belgium, the Belgian government had come to support Brussels Airline with a loan of €287 million and a capital injection of €3 million.

The European Commission approved the Belgian aid measure to support SN Group, which is composed of SN Airholding and its subsidiary Brussels Airlines, in the framework of the coronavirus outbreak. The aid measure was approved under the State aid Temporary Framework.<sup>104</sup>

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<sup>103</sup> Article. “*IAG’s Spanish airlines secure \$1.1 billion of state-backed loans*” (May,1 2020). REUTERS. Available at: <https://www.reuters.com/article/us-health-coronavirus-iag-debt-idUSKBN22D56D>. Accessed on June,21 2021.

<sup>104</sup> Article. “*State aid: Commission approves €290 million Belgian support to Brussels Airlines in the context of the coronavirus outbreak*”. (21, August 2020) European Commission. Available at: [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_1507](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1507). Accessed on June,23 2021.

## 2.7 PUBLIC SUPPORT AND TAXATION : THE CASE OF FRANCE

It should be noted that the public aid, targeted at a specific company, infringe the rules on state aids in Europe. Indeed, Article 107 of the Treaty on the Functioning of the European Union<sup>105</sup> says that: “*save as otherwise provided in the Treaties, any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, insofar as it affects trade between Member States, be incompatible with the internal market*”<sup>106</sup>. However, in presence of the exceptional circumstances, the European Commission has adopted a temporary framework, allowing Member States to assure that sufficient liquidity is available to all actions to preserve the continuity of economic activity during the pandemic. The Commission will enable Member States to use the full flexibility predicted under State aid rules to block this unprecedented situation. This temporary framework provides for several types of aid, including state guarantees for bank loans taken out by companies. It has been in place until 30 June 2020.<sup>107</sup>

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<sup>105</sup> TFEU.

<sup>106</sup> Article 107 (ex-Article 87 TEC), Chapter 1: Competition rules – Section 2: Aids granted by States, Official Journal 115, 09/05/2008 pp. 91 – 92.

<sup>107</sup> “*Statement by Executive Vice-President Margrethe Vestager on a draft proposal for a State aid Temporary Framework to support the economy in the context of the COVID-19 outbreak*”, European Commission, 17 March 2020. Available at: [https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT\\_20\\_479](https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_20_479); Accessed on June, 29 2021.



This policy of massive public aid to major legacy companies also raises several questions. Based on the various companies' situation, public aid can lead to an inequity in competition, to the damage of small players who will have to survive without public aid.

Support for the historical giants must not bring to implement exclusionary strategies, particularly against small players. Competition authorities (such as the national Antitrust agencies) should be very vigilant, particularly with regard to the abuse of a dominant position.

### **2.7.1 The question of duopolies in French overseas territories**

In the case of France, after the bankruptcies of Aigle Azur<sup>108</sup> and XL Airways<sup>109</sup> – positioned on international markets – there are still some major carriers facing Air France, such as SNCF<sup>110</sup> and easyJet on domestic routes.

However, the competitive situation could be weakened for certain destinations, especially in the French overseas departments and territories, if some players such

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<sup>108</sup> Aigle Azur was a French airline based at Paris Orly Airport. Created in 1946 at the time of its closure on September 27, 2019 it was France's oldest private airline as well as the country's second largest airline.

<sup>109</sup> XL Airways was a French leisure airline based at Paris Charles de Gaulle Airport in France. In 2012 it was the tenth largest French airline by passenger traffic with 1.12 million passengers carried.

<sup>110</sup> France's main railway operator (Société Nationale des Chemins de fer Français).

as Corsair, Air Austral, Air Caraïbes or Air Tahiti Nui were less able to drive competition on the market, as they have already done up to now. For example, on the market to the West Indies, competition is mainly between Air France and Air Caraïbes<sup>111</sup>, which each have a market share of more than 35%, the third operator being Corsair<sup>112</sup> (21%). On the island Reunion, the entry of French Bee in 2017<sup>113</sup>, has led to a bigger competition: French Bee has gained a market share of 20% in two years, thanks to market growth<sup>114</sup>. Resuming, competition on these markets is played out between a large player (Air France) and smaller players such as Air Austral, Corsair and French Bee.

On the French island Cayenne, the situation is also that of a duopoly, between Air France (60% market share) and Air Caraïbes (40%). Beyond the French case, maintaining a certain degree of competition in air transport is crucial for customers, whether in terms of price, quality or approachability of territories. Economically

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<sup>111</sup> Air Caraïbes is a French airline from Guadeloupe, based in Pointe-à-Pitre. In 2012, it was the ninth largest French airline by passenger traffic, with 1.18 million passengers carried.

<sup>112</sup> Corsair International, is a French charter airline. With more than 2 million passengers carried in 2008, it was the second largest French airline, after Air France and before Aigle Azur; the company carries more than 1.3 million passengers annually.

<sup>113</sup> A low-cost subsidiary of Air Caraïbes.

<sup>114</sup> Press release. “*French bee takes off for the US and French Polynesia*”. (11 May,2018) Frenchbee Airways. Available at: [https://www.frenchbee.com/sites/default/files/2019-03/20180511-French\\_bee\\_takes\\_off\\_for\\_the\\_United\\_States\\_and\\_French\\_Polynesia.pdf](https://www.frenchbee.com/sites/default/files/2019-03/20180511-French_bee_takes_off_for_the_United_States_and_French_Polynesia.pdf). Accessed on June, 24 2021.

speaking, a competitive market is also a vector of economic efficiency, by imposing productivity each operator takes advantage. Competition is a “prompt” to long-term economic performance.

### **2.7.2 The structural competitiveness deficit**

Public aid is certainly accompanied by compensatory measures, but it does not expressly address the problem of the structural competitiveness deficit of the incumbent operators. Thus, in the case of France, the government stated that the aid to Air France-KLM would be accompanied by compliance with “social and environmental” commitments<sup>115</sup>. In particular, the restructuring of the domestic network is one of the counterparts demanded by the State, as the Minister of the Economy specified: *“As soon as there is a rail alternative to domestic flights with a duration of less than 2 hours and 30 minutes, these flights will have to be drastically reduced, and in fact be limited for a transfer to a hub”*<sup>116</sup>. Air France will also have to meet responsibilities regarding profitability and environmental impact, including “a 50% reduction in its CO2 emissions per passenger and per km

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<sup>115</sup>Annual financial report 2020. AirFrance-KLM. (2020). Available at: [https://www.airfranceklm.com/en/system/files/afk\\_urd\\_2020\\_29042021.pdf](https://www.airfranceklm.com/en/system/files/afk_urd_2020_29042021.pdf). Accessed on June,29 2021.

<sup>116</sup> COFFEY,H. *“France bans short domestic flights where passengers can take the train”*. April,12 2021. The Independent. Available at: <https://www.independent.co.uk/climate-change/news/france-bans-domestic-flights-train-b1829978.html>. Accessed on June,29 2021.

between 2005 and 2030”. The objective of 2% sustainable alternative fuels by 2025<sup>117</sup> and the usage of investments in the renewal of the long and medium-haul fleet are also among the negotiated counterparts.

### **2.7.3 Structural reforms on air taxation**

In addition to the direct aid given to airlines, other structural reforms on air transport taxation could be imagined, notably in the case of France. Taxes weight on the competitiveness airlines and hubs . In France,<sup>118</sup> 220-million-euro reduction in charges have been made between 2018 and 2019, mainly through a reduction in airport taxes and route charge rates. However, these measures do not reduce the tax-related competitiveness deficit that exists in France<sup>119</sup>, compared to other European countries. Other levers such as the reduction of taxes (the solidarity tax known as

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<sup>117</sup> Article. “*Air France-KLM, Total, Groupe ADP and Airbus Join Forces to Decarbonize Air Transportation and Carry Out The First Long-Haul Flight Powered By Sustainable Aviation Fuel Produced in France!*” (18 May 2021). AirFrance-KLM Corporate Press. Available at: <https://www.airfranceklm.com/en/air-france-klm-total-groupe-adp-and-airbus-join-forces-decarbonize-air-transportation-and-carry-out>. Accessed on July,1 2021.

<sup>118</sup> Speech by Elisabeth Borne, Minister of Transport, Conclusion of the “*Assises nationales du transport aérien*” – *Presentation of the national air transport strategy*.(8 March 2019). Available at:<https://www.ecologie.gouv.fr/conclusion-des-assises-nationales-du-transport-aerien-presentation-strategie-nationale-du-transport>. Accessed on July,1 2021.

<sup>119</sup> Estimated at 700 million euros by the National Federation of Merchant Aviation – FNAM.

the “Chirac” tax<sup>120</sup> or VAT) have not been activated and have been accentuated with the inclusion in the 2020 budget of an eco-tax that will be added to the price of a ticket for a flight departing from France.

Last but not least, the recent work of the Citizen’s Convention on Climate Change<sup>121</sup> has generated the idea of an eco-tax on air transport.

According to the Directorate General for Civil Aviation, the cost of this tax would be €4.2 billion for the sector.

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<sup>120</sup>The solidarity tax on airplane tickets (also known as Chirac Tax) is a surcharge on the civil aviation .This tax was initially proposed by Presidents Jacques Chirac of France and Luiz Inácio Lula da Silva of Brazil. It was initially adopted by five founding countries (France, Brazil, United Kingdom, Norway and Chile) during a conference in Paris on September 14, 2005.

<sup>121</sup> The Citizens Convention for Climate is a citizens' assembly held in 2019 and 2020 which discussed reducing France's carbon emissions by 40% from its 1990 levels in a spirit of social justice.

## 2.8 MAIN ADJUSTMENTS TO FACE THE CRISIS

The main adjustments include personnel reductions with a decrease of almost 30% (12,000 out of 42,000 employees) at British Airways and 16% at Lufthansa (22,000 out of 135,000) with discussions ongoing to increase the target to 30,000 employees, i.e., 22%.<sup>122</sup>

At the same time, Air France is planning the reduction of 17% of its staff (including 42% of Hop!<sup>123</sup>) but has a voluntary departure plan to reduce the number of departures (3,460 positions open to voluntary departure for ground staff, 403 positions for pilots and discussions are in progress for flight personnel).

Additionally, the three airlines have also pursued to minor personnel costs with salary cuts, particularly for pilots: a 20% cut for IAG and a proposal by Lufthansa pilots to cut their salaries by 45% to avoid layoffs<sup>124</sup>, a freeze on salary increases at KLM and via the long-term partial activity scheme for Air France. These measures also involve a reduction in the companies' offer.

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<sup>122</sup> Article. “BA to cut up to 12 000 jobs while Lufthansa plans to axe 22 000”. The financial.(07 August 2020). Available at: <https://finchannel.com/ba-to-cut-up-to-12-000-jobs-while-lufthansa-plans-to-axe-22-000/>. Accessed on July,2 2021.

<sup>123</sup> Air France Hop is a French regional airline owned by Air France. Created in 2013 ,the company operated independent flights until September 2019, when with the name change and the closure of the site, it changed its name to Air France Hop operating exclusively flights on behalf of Air France.

<sup>124</sup> Article. “Lufthansa reaches deal with pilots to cut costs”. (August,7 2020). REUTERS. Available at: <https://www.reuters.com/article/us-lufthansa-restructuring-idUSKCN25F1LD>. Accessed on July,2 2021.

For example, Air France has put a plan in place (the Vesta plan<sup>125</sup>) to decrease its domestic flights by 40% by the end of 2021. Lufthansa has also decided to part with 150 aircrafts between now and 2025, i.e. nearly 20% of the fleet, compared with 55 aircrafts for IAG.

Some historic European airlines, such as Air France-KLM and Lufthansa, will not be able to get through the Covid-19 crisis without massive public aid. While this public intervention is justified by the urgency and the liquidity crisis that these companies are experiencing, it may also distort competition, for players that do not benefit from public aid. Public aids should be conditional on the pursuit of structural reforms, even though these historic companies suffer from a lack of competitiveness on short and medium-haul routes<sup>126</sup>. A review of public policies on air taxation is also part of the solution, especially to reduce the differences in competition between European countries.

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<sup>125</sup> Article. “*Le plan « Vesta » d’Air France pour la refonte de son réseau domestique*”. Les Echos. Available at: <https://www.lesechos.fr/industrie-services/tourisme-transport/le-plan-vesta-dair-france-pour-la-refonte-de-son-reseau-domestique-1214967>. Accessed on July,2 2021

<sup>126</sup> Where low-cost carriers are making big competition.

## **2.9 THE RESILIENCE OF LOW-COST CARRIERS**

While some legacies such as Alitalia and Lufthansa are in a terrible situation and stayed alive with the help of the States, only a few airlines will manage to survive the total blockage of their activity for a few months and the gradual recovery of the market. In addition to small players such as Air Caraïbes in France<sup>127</sup> or the legacy carrier British Airways in the United Kingdom, we find several low-cost airlines, which have in common that they are large and specialised in medium-haul flights.<sup>128</sup> In terms of type of carrier and performance, it is necessary to make a distinction between two quite different types of low-cost carriers: ultra-low-cost and middle-cost. Some large low-cost airlines have strong profitability that will let them to overcome the liquidity crisis. This is particularly true for the “ultra low-cost” model, represented by Ryanair and Wizz Air, which have a large cash position and a great organisational flexibility, where a “middle cost” operator like easyJet will manage to survive the crisis. It is likely that these low-cost airlines will play a role in the consolidation of the post-Covid European market.

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<sup>127</sup> See paragraph 2.7.1

<sup>128</sup> The so-called: “pure players”



### 2.9.1 The ultra-low-cost sector

A first model, also found in the United States with Spirit Airlines<sup>129</sup>, can be described as “ultra low-cost”: it includes companies such as Ryanair, Wizz Air or Pegasus. These airlines operate with a very low unit cost base (measured in CASK<sup>130</sup>).

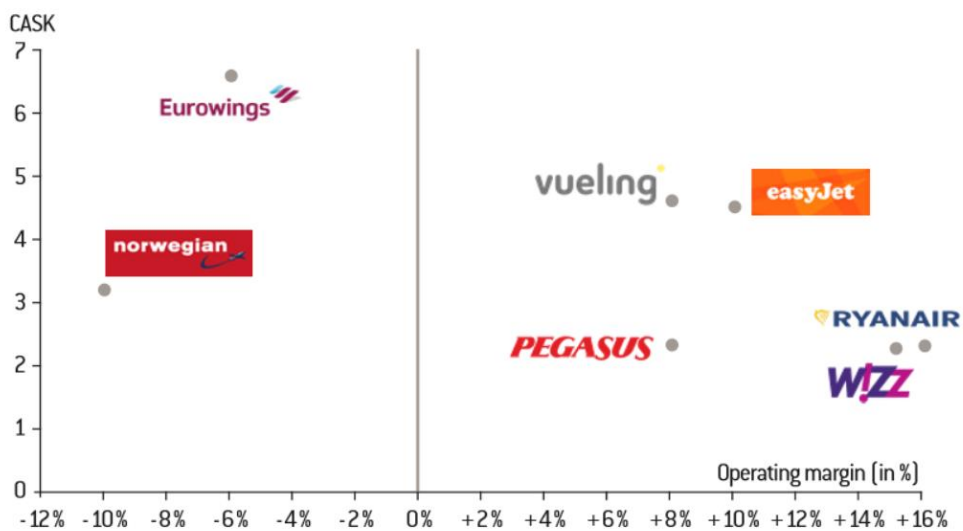


Figure 2.3. CASK per airline. Source: Roland Berger, company data(2020)

<sup>129</sup> Spirit Airlines is a US major low-cost airline based in Miramar, Florida, with bases in Fort Lauderdale, Florida, and Detroit, Michigan.

<sup>130</sup> Cost available per seat kilometer. See paragraph 2.5.1

Their network connects many big and small cities in Europe, such as Ryanair, which, referring to 2020, has more than 80 bases throughout the continent<sup>131</sup>, or Wizz Air, which has more than 20 bases<sup>132</sup>, most of which are in Eastern Europe. Setting up at regional airports permits lower taxation, or even benefitting from public subsidies for the opening of routes<sup>133</sup>(such as the case of Ryanair in Abruzzo region, Italy) and having great operational agility.

In terms of customers, ultra-low-cost mainly attracts leisure and foreign customers who are very price-sensitive but are less apprehensive about frequencies, schedules, and the choice of destinations. In terms of revenue, ultra low-cost fares are very low: for Ryanair, the average ticket price was 37,10 euros in 2019<sup>134</sup>. In organisational terms, ultra low-cost has a very agile and opportunistic model, which quickly adjusts capacity and destinations according to changes in demand.

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<sup>131</sup> Ryanair Corporate. 2021.(In Italian). Available at: <https://www.ryanair.com/it/it/info-utili/informazioni/informazioni>. Accessed on June,29 2021.

<sup>132</sup> Wizz Air Company info. Available at: <https://wizzair.com/it-it/info-servizi/chiamo/informazioni-azienda>. Accessed on June,29 2021.

<sup>133</sup> Article. *“Aeroporti, Ryanair: “Rimuovere ovunque e per sempre l’addizionale comunale”*. L’agenzia di viaggi Magazine. Available at: <https://www.lagenziadiviaggi.it/aeroporti-ryanair-rimuovere-ovunque-e-per-sempre-laddizionale-comunale/>. Accessed on June,29 2021.

<sup>134</sup> Ryanair annual report(2019). Ryanair. Available at: [www.investor.ryanair.com](http://www.investor.ryanair.com). Accessed on June,30 2021

### **2.9.2 The strength of ultra-low cost**

Like all airlines, ultra-low-cost airlines are strongly impacted by the Covid-19 crisis. For example, Ryanair had only 50 million passengers flying in 2020 , compared to 152 million in 2019<sup>135</sup>. In October 2020, Ryanair only operated 40% of its capacity compared to the same period of the year before.

However, ultra-low-cost aircrafts have several advantages that will enable them to overcome the Covid-19 crisis and even come out of it stronger.

Ultra-low-cost airlines have been generating double-digit profit margins for several years, between 12 and 20% depending on the year, which has allowed them to accumulate significant cash flow over time. The case of Ryanair is edifying in this respect: the Irish company had, at the beginning of the Covid-19 crisis, one of the most solid balance sheets in the sector, with €3.8 billion in cash equivalents<sup>136</sup> and low debt, estimated at 69% of equity. 3.8 billion represented half of its annual turnover<sup>12</sup> (7.6 billion in 2019<sup>137</sup>.)

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<sup>135</sup> Facts & Figures. Ryanair Corporate. Available at: <https://corporate.ryanair.com/ryanair-facts-and-figures/>. Accessed on July,1 2021.

<sup>136</sup> Article. “Wizz Air & Ryanair lead Europe on liquidity for COVID-19”. CAPA. Available at: <https://centreforaviation.com/analysis/reports/wizz-air--ryanair-lead-europe-on-liquidity-for-covid-19-517608>. Accessed on June,29 2021.

<sup>137</sup> CAPA statistical data. *Centre for Aviation*. Available at: [www.capa.org](http://www.capa.org) . Accessed on June,29 2021.

In addition, Ryanair has its own fleet of more than 400 aircraft, all of the same type, allowing the reduction of maintenance cost. When an airline has all the same aircraft type (the case of Ryanair sees only Boeing 737-800) it is easier and cheaper to maintain them.

### **2.9.3 The cost structure of ultra-low-cost companies**

Ultra-low-cost has a cost structure characterised by low-fixed costs compared to variable costs. The stay of aircrafts on the ground therefore reduces a significant proportion of variable costs, like kerosene: the first cost, fuel, represented 29% of variable costs at Wizz Air in 2018 and even reached 35% at Ryanair. Similarly, personnel costs, which are almost a fixed cost, accounted for only 10% of the total cost for Wizz Air and 13% for Ryanair.<sup>138</sup>

Also, ultra-low-cost companies have strongly adjusted their size to the crisis context by reducing salaries and networks to reduce the fixed costs. Thus, during the first quarter of 2020, Ryanair's loss were "only" 185 million euros, while Wizz Air should make a positive net profit for the year 2020.

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<sup>138</sup> BOYLE,R. "*The battle of the low-cost carriers*". GRIDPOINT Consulting. Available at: <https://www.gridpoint.consulting/blog/the-battle-of-the-low-cost-carriers>. Accessed on July,1 2021.

Under these conditions, even if it will take some time for air traffic to return to pre-pandemic levels, it is likely that Ryanair and Wizz Air will emerge from the Covid-19 crisis without big damages and will even have enough financial resources, especially through obligations and the purchase of bankrupt companies, to take part in the restructuring of air sector in Europe.

## **2.10 MIDDLE COST AIRLINES**

Alongside the ultra low-cost is the “middle cost”, represented in Europe by airlines such as easyJet or Vueling<sup>139</sup>. These airlines have a unit cost excluding fuel<sup>140</sup> of 60% higher than Ryanair. However, it is still 20 to 30% lower than the unit cost of a historic airline.

One reason for the higher unit cost of middle cost airlines is that they usually take off from major hubs, where taxes are significantly higher (for example Barcelona-El Prat for Vueling, and London Gatwick for Easyjet).

These higher unit costs logically lead to an average price of ticket higher than the ultra-low-cost companies. The customer profile of middle-cost is more differentiated than the one of ultra-low-cost airlines: there are tourists, but also

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<sup>139</sup> A subsidiary of IAG group.

<sup>140</sup> CASK

business customers, less price-sensitive but very reliant on the destination. This more “business” profile means that large middle cost airlines must take off from main airports and offer a consistent frequency of flights and adequate flight times. They usually also have frequent flyer programs and travel facilitation, value-added services (waiting rooms, fast boarding) and ticket flexibility.

Like the ultra-low cost, the middle cost model is consistent between the structure of its offer, in terms of costs and lines, and the structure of demand, in terms of customers and revenues is equilibrated.

### **2.10.1 Impact of crisis on middle cost airlines**

Middle costs have also been strongly impacted by the crisis: for example, easyJet reduced its capacity by an average of 60% in 2020. Given their positioning in the business customer segment, middle cost customers are in a less comfortable situation than ultra-low-cost customers.

For example, EasyJet has gone in negative for the first time, with a loss of more than £1 billion in its 2019/2020 financial year<sup>141</sup>. In early November 2020, easyJet announced the sale of 11 aircrafts for £130 million to boost its liquidity. In total, Easyjet has raised more than £2.4 billion in cash over the financial year, with the

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<sup>141</sup> MONTI, M. “*EasyJet, prima perdita annuale in 25 anni*”. Il sole 24 ore (In Italian). Available at: <https://www.ilsole24ore.com/art/easyjet-prima-perdita-annuale-25-anni-ADQCPq2>. Accessed on June, 29 2021.

only aim of “getting out from the crisis”<sup>142</sup>. Vueling has also obtained a loan of 250 million euros from the Spanish government<sup>143</sup>.

It is probable that middle cost airlines will benefit less from the crisis, as their main competitors are historic airlines such as Air France, Alitalia or Lufthansa, which were saved by their governments. Middle cost airlines, which are already limited in their expansion by congestion at major hubs, will only regain market share if legacies experience strong attrition, which will lead them to release some slots, such as Alitalia at Milano Linate airport.<sup>144</sup>

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<sup>142</sup>Article. “*EasyJet cuts more flights and sells planes after new Covid controls*”(2020). The Guardian. Available at: <https://www.theguardian.com/business/2020/nov/06/easyjet-cuts-more-flights-and-sells-planes-after-new-covid-controls>. Accessed on July,2 2021.

<sup>143</sup> See paragraph 2.6.4

<sup>144</sup> BERBERI, L. “*La nuova Alitalia riparte dagli slot di Linate (con più aerei)*”(2021). Il corriere della Sera (In Italian). Available at: [https://www.corriere.it/economia/aziende/21\\_aprile\\_29/nuova-alitalia-riparte-slot-linate-con-piu-aerei-f081ca7e-a8e5-11eb-afd8-e23f23e9f8bf.shtml](https://www.corriere.it/economia/aziende/21_aprile_29/nuova-alitalia-riparte-slot-linate-con-piu-aerei-f081ca7e-a8e5-11eb-afd8-e23f23e9f8bf.shtml). Accessed on July,2 2021

### **2.10.2 The case of Norwegian**

Being low-cost, even of large size, is not a sufficient condition to be profitable and to survive the Covid-19 crisis. The case of Norwegian, Europe's third low-cost airline in terms of passenger numbers, is interesting. Norwegian has been accumulating losses for several years and is heavily indebted: its debt reached 3 billion euros (at the end of 2018), for a turnover of 4.3 billion euros in 2019.<sup>145</sup>

To explain this structural underperformance, it may be noted that, unlike other low-cost carriers, Norwegian operates in two markets of a very different nature: medium-haul and long-haul.

Putting together in the same company two activities with very different costs and revenue levels contributes to the complexity of the operating model.

Due to the Covid-19 crisis, Norwegian had to cancel 85% of the flights and even all of its flights to North America. Despite the measures taken, such as the temporary reduction of 90% of the personnel, relocating on the medium-haul network, and reducing the size of the fleet (sale of aircraft, cancellation of an order

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<sup>145</sup> Article. "*What is left of Norwegian Air Shuttle as it exits bankruptcy?*"(2021). Aerotime Hub. Available at: <https://www.aerotime.aero/28019-norwegian-exits-bankruptcy>. Accessed on July,2 2021.



for 97 Boeing 737 and 787s<sup>146</sup>), it will be difficult for the Norwegian low- cost airline to get through the crisis. The Norwegian State announced at the end of March 2020 that it was providing a guarantee for a loan of €275 million from Norwegian.<sup>147</sup> Norwegian’s subsidiaries in Sweden and Denmark went bankrupt in April 2020 because they did not have any financial support by their respective states<sup>148</sup>. In the absence of a new oxygen tank, Norwegian’s bankruptcy is likely: it will allow for growth opportunities for the players who will remain on the market in the future.

The large low-cost airlines such as Ryanair and Wizz Air could take advantage of the situation to go on the offensive and will try to consolidate their leading position; at the contrary, the large incumbent operators’ risk being marginalised and in attrition unless they take advantage of this crisis to accelerate their structural change in terms of medium haul.

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<sup>146</sup> WOLFSTELLER,P. “*Norwegian cancels 97 Boeing aircraft orders*”. Flight global (2020). Available at: <https://www.flightglobal.com/fleets/norwegian-cancels-97-boeing-aircraft-orders/139050.article>. Accessed on July,2 2021.

<sup>147</sup> Article. “*Norwegian appreciates support from the Norwegian Government*”. Norwegian Air Press. Available at: <https://media.uk.norwegian.com/pressreleases/norwegian-appreciates-support-from-the-norwegian-government-3066398>. Accessed on July,2 2021.

<sup>148</sup> Article. “*Norwegian’s pilot and cabin crew companies in Sweden and Denmark file for bankruptcy.*” Norwegian . Available at: <https://media.uk.norwegian.com/pressreleases/norwegians-pilot-and-cabin-crew-companies-in-sweden-and-denmark-file-for-bankruptcy-2992418>. Accessed on July,2 2021.

### **3. ITALY AND GERMANY: THE IMPACT OF THE PANDEMIC**

#### **3.1 THE CONSEQUENCES ON AIR TRAFFIC**

The impact of the COVID-19 crisis removed more than 1 billion passengers for the whole year 2020, approximately a decline of 64.6% of global passenger traffic.

Doing a comparison with 2019, there is a decline of 63.3%.

Europe and the Middle East were the two most impacted regions with similar declines of 5% .

After being hit first, Asia-Pacific boarded on recovery earlier and faster than other regions—mostly driven by China’s sizable domestic market— and closed the year 2020 with a decline of 61.3% compared to the projected baseline (59.8% decline compared to 2019 level). Asia-Pacific, however, recorded the highest traffic loss of all regions with a loss of 2.15 billion passengers in 2020 compared to the projected baseline.

Following the lockdown of March 2020, international passenger traffic was virtually non-existent in the second half of 2020. International passenger volume ended the year below 1 billion passengers, a decrease of more than 75% compared to 2019 volume.

Domestic passenger traffic volume was helped by the early recovery of major domestic markets like China, Russia, and the US. Globally, domestic traffic volume

for 2020 was recorded slightly above 2.4 billion passengers, a decline of 54.7% compared to 2019 volume.

In terms of economic impact, because of uncoordinated travel restrictions combined with small domestic markets, Europe is expected to remain the hardest hit region in absolute terms with an estimated decrease in revenue of over \$37.5 billion for the full year 2021 compared to 2019.<sup>149</sup> In relative terms, the Middle East and Europe are expected to take the biggest hits with declines of 58.9% and 58.1% respectively. Asia-Pacific is the region with the relatively smallest impact, however a very significant drop of 40.3% is expected.

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<sup>149</sup>Article. “Pandemic’s dramatic impact on aviation endures but signs of recovery emerge”. 25, March 2021. ACI. Available at: <https://aci.aero/news/2021/03/25/pandemics-dramatic-impact-on-aviation-endures-but-signs-of-recovery-emerge/>. Accessed on July, 15 2021.

### **3.2 AVIATION STRATEGIC FOR THE EU**

Aviation is a strategically important sector that employs almost five million people across the EU: pilots, cabin crew, airport operators, airport enterprises, aircraft producers and air traffic control service providers. The sector accounts for 2.1 % of EU gross domestic product. It plays an essential role in tourism and permits trade over long distances.<sup>150</sup>

The covid-19 pandemic has had an unprecedented impact on air transport in the European Union and the rest of the world. During the first wave (March 2020)<sup>151</sup>, most member states imposed flight bans and other travel restrictions, bringing passenger flights almost to a stop. As the industry looks forward to reduce costs, as explained in Chapter 2, it has announced job cuts and/or reduced work schedules, salaries reductions and hiring reduction (and in some cases also stops) .

As already said, a number of airlines have already declared bankruptcy<sup>152</sup>.

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<sup>150</sup>Air, Transport and mobility. European Commission official communication website. Available at: [https://ec.europa.eu/transport/modes/air\\_en](https://ec.europa.eu/transport/modes/air_en). Accessed on July,7 2021.

<sup>151</sup> Reference at paragraph 1.1

<sup>152</sup> Reference at paragraph 2.4.2

### **3.2.1 Traffic volumes reduction**

One of the features of the ongoing crisis is that both supply and demand have been affected by the pandemic. On the one hand, many passenger flights have been cancelled. In October 2020, IATA<sup>153</sup> reported that in September 2020 airlines operated 51 % fewer flights worldwide than in September 2019. On the other hand, air transport demand has collapsed; IATA estimated that airlines lost about 66 % of their passengers in 2020.<sup>154</sup> Although there are fewer passengers and flights, airports and airlines still have high fixed costs<sup>155</sup>, including maintenance of aircraft, airfields and terminals, and for the application of hygienic measures. IATA forecasted that the pandemic pushed the air industry's revenues down by € 357 billion in 2020, a 50 % decline compared to 2019. Unlike previous crises, the current one is expected to have a much longer-term impact on the sector. IATA does not expect the world's airlines to recover to 2019 levels before 2024; long-haul travel will be the slowest to return to pre-pandemic levels.<sup>156</sup>

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<sup>153</sup>IATA: International Air transport Association

<sup>154</sup>Report. “*Deep Losses Continue Into 2021*”. IATA (24 November, 2020). Available at: <https://www.iata.org/en/pressroom/pr/2020-11-24-01/>. Accessed on July, 7 2021.

<sup>155</sup> Reference at paragraph 2.7

<sup>156</sup>“*Report on economic performance of airline industry*”. IATA (2020). Available at: [www.iata.org](http://www.iata.org). Accessed on July, 7 2021.

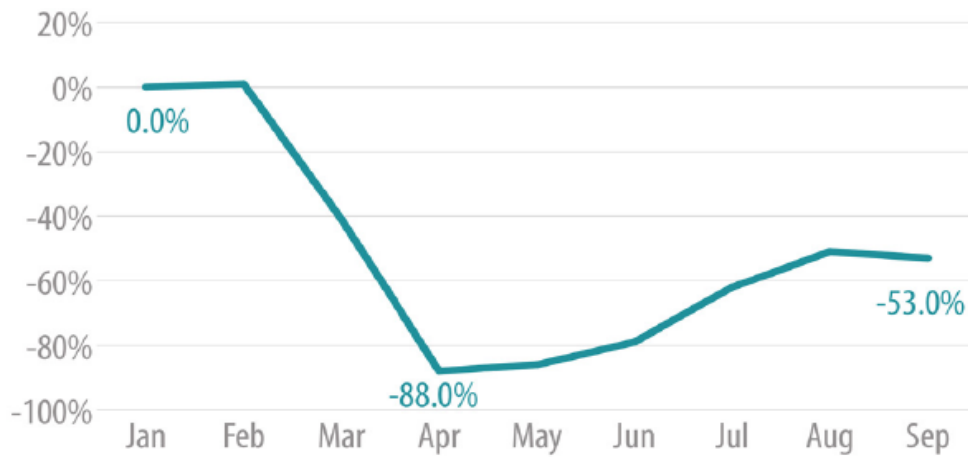


Figure 3.1. Air traffic in EU, 2020 (compared to 2019). Eurocontrol (2020)

Europe has been one of the worst affected regions in the world by the pandemic. The number of flights in European airspace fell by almost 90 % in March/April 2020 compared with the same period in 2019, leading to the collapse of passenger travel (see Figure above).<sup>157</sup>

International air passenger traffic has suffered more than the domestic. The actual impact will depend on various factors such as the duration and the intensity of the crisis, consumer confidence, and the containment measures applied by states.

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<sup>157</sup>“Annual Network Operations Report 2020”. Eurocontrol (2020). Available at: <https://www.eurocontrol.int/publication/annual-network-operations-report-2020>. Accessed on July,7 2021.

Europe is one of the regions where air traffic is estimated to recover more slowly than in other regions.

### **3.2.2 The role of airports in Europe**

Another side of the aviation industry are the airports. Their revenues come from charges and taxes on airlines and passengers, as well as activities such as retail and parking, which are strictly linked to the number of passengers. All these sources of revenues are changing faces, as airports face a strong decline in passenger volumes. However, despite the decline in passenger volumes, some airports serving major cities have stayed open with reduced schedules, humanitarian, repatriation, and cargo flights, and for aircraft parking. All these activities have continued to generate costs for the provision of airport facilities and the staffing of services.

Aircraft producers, such as Boeing and Airbus, and their suppliers are equally affected as airlines cancel orders. In addition, fewer aircraft in operation means a lower revenue from aftersales services. To cut costs, Airbus did an adaption in its commercial aircraft production, and planned a cut of 15 000 jobs (around 17 % of its workforce).<sup>158</sup>

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<sup>158</sup>“*Airbus plans to further adapt to COVID-19 environment*”. AIRBUS. ( January,30 2020). Available at: <https://www.airbus.com/newsroom/press-releases/en/2020/06/airbus-plans-to-further-adapt-to-covid19-environment.html>. Accessed on July,7 2021.

Regarding the actions taken by the European Union, one of the first measures taken was to avoid situations where air carriers would operate flights with very low load factors to protect their allocated take-off and landing slots<sup>159</sup>. At the start of the pandemic, flights with very low load factors caused big financial loss for airlines as well as having a negative impact on the environment.<sup>160</sup>

Airports generate more than 95% of all revenue from two operating sources: aeronautical and non-aeronautical services.

All aeronautical revenues are a direct function of traffic (include passenger-related charges, as explained above, from passengers and aircraft-associated charges from aircraft operators).

As traffic declined, airports' ability to collect those charges decreased proportionally.

In September 2020, the Air Transport Action Group<sup>161</sup> a global association that represents all sectors of the air industry, estimated that the coronavirus crisis will

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<sup>159</sup> Under EU slot rules, airlines have to use their take-off and landing slots at least 80 % of the time over the scheduling period, for which they have been allocated; otherwise, these slots go back into the slot pool for allocation, with underused slots then being reallocated as part of the 'use it-or-lose-it' rule.

<sup>160</sup>“*Suspension of EU rules on airport slot allocation.*(March,24 2020).European Parliament. Availableat:[https://www.europarl.europa.eu/thinktank/de/document.html?reference=EPRS\\_ATA%282020%29649342](https://www.europarl.europa.eu/thinktank/de/document.html?reference=EPRS_ATA%282020%29649342). Accessed on July,9 2021.

<sup>161</sup> Acronym: ATAG



result in the loss of 46 million aviation-supported jobs (-52.5%) and a reduction of 51.5 % in economic activity supported by aviation.<sup>162</sup>

The current duty assumes constant airport revenues on a per-passenger basis, even though preliminary evidence suggests that unit revenues may both increase or decrease depending on a combination of airport-specific factors<sup>163</sup>.

Every airport has its own non-aeronautical services, and a higher proportion of passenger-related activities, such as retail or food and beverage businesses, lead to a sharper reduction in commercial revenues, whereas a bigger confidence on real estate income and rents turns as a cushion in times of crisis.

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<sup>162</sup> “*Aviation Benefits Beyond Borders*”(2021). Available at: <https://aviationbenefits.org/>. Accessed on July,9 2021.

<sup>163</sup> Such as, local taxes, which vary very much by nations and also by regions within them. For example, in Italy, there is “municipality surcharge”, called “addizionale comunale” which weighs on airport revenues; and it’s higher in the biggest hubs, such as Rome-Fiumicino and Milano Malpensa.

### 3.3 THE IMPACT IN ITALY

The pandemic crisis has hit Italy's air transport hard. In 2020, the number of passengers fell by 72.5%. A collapse that has overwhelmed the accounts of the airport operators, with an overall economic loss suffered by the system of over 1 billion euros, in the period March-September 2020 alone. Rome Fiumicino lost 77.5% of passengers compared to 2019, with about 9.7 million passengers, followed by Milan Malpensa (-74.9%).<sup>164</sup>

During 2020, air traffic was strongly affected by the crisis triggered by the Covid-19 epidemic, which caused a sharp contraction, in line with what was recorded in the rest of the world. In 2020, 52,759,724 passengers transited through Italian airports, including domestic and international traffic, with a decrease of 72.5% compared to 2019<sup>165</sup>.

Domestic traffic, with its 25 million passengers, recorded a more moderate decrease, -61.1%, than international traffic, -78.3%, with a total of approximately 27,700,000 passengers. In Italy, after an initial closure to flights from China and

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<sup>164</sup>“*Enac's 2020 Report and Social Report*”. ENAC(2020).Ente nazionale per l'aviazione civile. Available at: <https://www.enac.gov.it/en/publications>. Accessed on July,14 2021.

<sup>165</sup>“*Enac's traffic report 2020*”. ENAC (2020). Ente nazionale per l'aviazione civile. Available at: <https://www.enac.gov.it/en/publications>. Accessed on July,14 2021.

neighbouring areas<sup>166</sup>, air traffic suffered a drastic reduction, initially in passenger demand and subsequently in the supply of flights. The various lockdowns in the first part of the year led to an almost total stoppage of passenger flights, particularly at some national airports.

Italian biggest hubs , as many times already said, are Milano-Malpensa and Rome-Fiumicino alongside with Bergamo-Orio al Serio airport, which is the national low-cost hub.

But the pandemic, in the Italian market, in addition to a loss of traffic volumes, has led to a drastic drop in air connectivity (the number of available routes and the frequency of a country's connections with the rest of the world) in 2020.

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<sup>166</sup>Article. “*Coronavirus, stop ai voli Italia-Cina: che cosa cambia per turismo e affari. Bloccati anche i cargo*”. Il sole 24 Ore (2020). In Italian. Available at: <https://www.ilsole24ore.com/art/coronavirus-stop-voli-italia-cina-che-cosa-cambia-turismo-e-affari-bloccati-anche-cargo-ACdS1BGB>. Accessed on July,14 2021.

### **3.3.1 Air connectivity**

Air connectivity can be classified in four distinct types : direct, indirect, airport and hub connectivity.

*Direct connectivity:* These are the direct air services available from the airport, not only in terms of numbers of destinations, but also in the frequency of flights to the same destination.

*Indirect connectivity:* This measures the number of places people can fly to, through a connecting flight at hub airports from a particular airport.

Indirect connections are weighted according to their quality, based on connecting time involved with the indirect routing.

*Airport connectivity:* airport connectivity is defined as the sum of direct and indirect connectivity – thus measuring the overall level to which an airport is connected to the rest of the World, either by direct flights or indirect connections via other airports.

*Hub connectivity:* essentially, it measures the number of connecting flights that can be facilitated by the hub airport in question – considering a minimum and maximum connecting time and weighing the quality of the connections.

Data show that in Europe, connectivity indices have contracted more than passenger traffic. In Italy, in just six months, from April to September 2020, air connectivity fell by almost 90% compared to 2019<sup>167</sup>, confirming that the slight recovery recorded in the summer months has not led to an equal recovery in connectivity. According to EUROCONTROL's most recent estimates, the most realistic scenario puts 2026 as the year for full recovery to the traffic volumes recorded before the pandemic.<sup>168</sup>

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<sup>167</sup> Report. "Airport Industry Connectivity Report 2020" ACI Europe(2020). Available at: <https://www.aci-europe.org/air-connectivity.html>. Accessed on July,15 2021

<sup>168</sup>"Updated EUROCONTROL Traffic Scenarios for 2021: Clear hope for some recovery this summer and beyond". June,1 2021. EUROCONTROL. Available at: <https://www.eurocontrol.int/press-release/updated-eurocontrol-traffic-scenarios-2021-clear-hope-some-recovery-summer-and-beyond>. Accessed on July,15 2021.

### 3.4 ALITALIA

Alitalia history is a very complex and long one, which has seen many financial rescues in the last twenty years. Recently, in 2015 Alitalia was acquired by Etihad Airways<sup>169</sup> from UAE<sup>170</sup> but then in 2018, the group was abandoned due to financial problems, which the company sees also today.<sup>171</sup>

Traffic volumes of Alitalia are at the level of twenty years ago, with the prospect of recovering pre-pandemic numbers by 2024 at the earliest.

Legacy carries<sup>172</sup>, which have the highest revenues from long-haul flights (the most penalised by the pandemic), will require considerable support, and many will perhaps return under public control.

Alitalia enters this turbulence as a chronically loss-making carrier, which even before the pandemic was worth less than 15% of the Lufthansa group in terms of passenger-km, even though in terms of passenger numbers Italy was worth more than 20% of all intra-European traffic (not much less than Germany, which was worth around 26%).

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<sup>169</sup> Etihad Airways is the second biggest airline in the Middle East , after Emirates.

<sup>170</sup> United Arab Emirates

<sup>171</sup> BERBERI, L. “*Alitalia-Etihad, addio anche nel logo. Gli arabi cancellati dal sito web*”. Corriere della Sera (2017). Available at: [https://www.corriere.it/cronache/17\\_dicembre\\_19/alitalia-etihad-addio-anche-logo-c8aa027c-e4cc-11e7-99b2-e4b972c90c1d.shtml](https://www.corriere.it/cronache/17_dicembre_19/alitalia-etihad-addio-anche-logo-c8aa027c-e4cc-11e7-99b2-e4b972c90c1d.shtml). Accessed on July,15 2021.

<sup>172</sup> Reference at paragraph 2.5.3

### **3.4.1 The costs in Alitalia and the crisis**

The relevant decline of Alitalia occurred with the start of private management in 2009<sup>173</sup>. Today, staff accounts for 17% of operating costs, compared to 21% for British Airways, 23% for Lufthansa and 30% for Air France.

Another problem of Alitalia are the costs, and the management of them.

First, the inadequate hedging policy on fuel has prevented the company from taking advantage of the fall in prices; commercial costs and airport services are also still excessive; but on the cost front, the worst problem is the choice of fleet and its leasing contracts.

Second, the composition of the fleet is too mixed, with two types of long-haul aircraft, three for medium-haul and two for short-haul<sup>174</sup>: this prevents economies of scale in the management of aircraft and in the training and interchangeability of crews, increases maintenance costs and also makes it difficult to replace aircraft easily in the event of unforeseen circumstances; this is the perfect opposite, of what low-cost carriers do, for example Ryanair.<sup>175</sup> In addition, Alitalia has chosen to lease aircraft, a choice that is less penalising on long-haul routes, but for medium

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<sup>173</sup> ARRIGO, U. BATTAGLIA, A. DI FOGGIA, G. *“La nuova crisi di Alitalia e le prospettive di soluzione”* (2018). Università degli Studi Milano-Bicocca.

<sup>174</sup> Mondo Alitalia. La nostra flotta. Available at: [https://www.alitalia.com/it\\_it/volare-alitalia/mondo-alitalia/la-flotta.html](https://www.alitalia.com/it_it/volare-alitalia/mondo-alitalia/la-flotta.html). Accessed on July,16 2021.

<sup>175</sup> See paragraph 2.9

and short-haul routes, where the company has to face competition from low-cost carriers, it means that for Alitalia the costs per seat for managing the fleet, increase by more than 40% compared with direct ownership. Moreover, Alitalia's leasing contracts for the medium-short-haul fleet are also very expensive; compared with Vueling, which has made the same choice of flying with leased aircraft, they cost 65 % more per seat.

Overall, recovering standard values on these fronts could lead to savings of between 10% and 15% of operating costs and make the difference (pandemic apart) between a substantial loss and a break-even or even a decent profit.

#### **3.4.2 The problem of low revenues**

But Alitalia's real strategic problem is not costs, but revenues: the *total cost of a seat per thousand kilometres (CASK)* is 72 euros .

Sure, it's twice as much as Ryanair, but it's not much different from Easyjet's 66 euros, not to mention the traditional airlines, which are over 80€ . Even the Lufthansa group, which was in great shape before the pandemic, has a cost per seat offered of €84; the fact is that Lufthansa (again, apart from the pandemic) earns €89 per seat, with an operating profit of €5, Alitalia earns €69, with a loss of €3.

The reason for the low revenue are mainly two: firstly, Alitalia fills its planes poorly on average, approximately around 76%, Lufthansa reaches 80%, Easyjet and



Ryanair are around 90%<sup>176</sup>. As a result, the cost of each passenger is €95 per 1000 km for Alitalia, slightly less than that of Lufthansa, but much higher than that of the low-cost airlines.

At the other side, Lufthansa group in Germany is almost a monopolist, the 'low cost' do not reach 25 per cent of the market, and half of this 25 per cent is in the hands of subsidiaries of the German company anyway.<sup>177</sup> While Alitalia's share of the domestic market is around 15 per cent and half of the flows are in the hands of the low cost companies, which, are still subsidised in various ways by the airport management companies, in the regional airports.<sup>178</sup>

The second reason for the low revenues was the leaving of long-haul expansion.

Out of the company's 103 planes<sup>179</sup>, only 25 are long-haul; in the 1970s there were 29, with a market that was a tenth of today's.<sup>180</sup> In the last twenty years, Alitalia has

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<sup>176</sup> Alitalia corporate Report (2019). Available at: [www.corporate.alitalia.com](http://www.corporate.alitalia.com). Accessed on July,17 2021.

<sup>177</sup> ARRIGO, U. "*I numeri da conoscere prima di vendere a Lufthansa*". (2018). Available at: <https://www.ilsussidiario.net/news/economia-e-finanza/2018/1/6/inchiesta-alitalia-i-numeri-da-conoscere-prima-di-vendere-a-lufthansa/800302/>. Accessed on July,17 2021.

<sup>178</sup> BERBERI, L. "*Aerei, le low cost volano in Italia grazie a 391 milioni di incentivi all'anno*" (2020). Corriere . Available at: [https://www.corriere.it/economia/aziende/20\\_giugno\\_16/aerei-low-cost-volano-italia-grazie-391-milioni-incentivi-all-anno-a477a2ea-af0b-11ea-a957-8b82646448cc.shtml](https://www.corriere.it/economia/aziende/20_giugno_16/aerei-low-cost-volano-italia-grazie-391-milioni-incentivi-all-anno-a477a2ea-af0b-11ea-a957-8b82646448cc.shtml). Accessed on July,17 2021.

<sup>179</sup> 2021 Fleet composition.

<sup>180</sup>TOSO,R. "*An analysis of air market trends in Europe. The Alitalia paradox: any solution?*"(2018). CESISP.

been at its worst: in 2000, after the failure of the merger with KLM, it reduced its long-haul expansion just as the Milan-Malpensa hub was becoming operational. Then, in 2008, after the failed merger with Air France, the company focused even more on the domestic market, without realising that the rapid rise of high-speed rail was beginning.<sup>181</sup>

### **3.4.3 Ita**

As said before Alitalia could not go on its operations alone.

After many failed negotiations with Delta Air Lines, EasyJet, Ferrovie dello Stato Italiane<sup>182</sup>, and China Eastern Airlines, the Italian government took ownership of the airline. The government takeover was in part due to the belief that the airline would not be able to survive the impact of the COVID-19 pandemic on its own.

On 10 October 2020, the Italian government signed a decree to let the airline reorganize as Italia Trasporto Aereo S.p.A.<sup>183</sup>

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<sup>181</sup> GIURICIN,A. “*Alitalia/La concorrenza dell’Alta Velocità all’aereo? Ce ne sarebbe una migliore*” (2009). Il Sussidiario edizioni. (In Italian)

<sup>182</sup> Italy’s main railway company, the equivalent of Deutsche Bahn in Germany.

<sup>183</sup>“*Alitalia, nasce la Newco*” (in Italian). Rai News. Available at : <https://www.rainews.it/dl/rainews/articoli/alitalia-nasce-la-newco-gualtieri-poste-basi-per-il-rilancio-del-trasporto-aereo-d55177b6-b5fe-4b72-8d79-1e0bd3ce7626.html>. Accessed on August,17 2021

On 28 October 2020, it was reported that ITA was expected to buy several assets from the former Alitalia, including the brand and the flight codes of Alitalia and Alitalia CityLiner<sup>184</sup>, the IATA ticketing code, the MilleMiglia<sup>185</sup> program, and airport slots at London Heathrow (68 weekly slots in summer and 65 in winter). The transaction value was approximately of €220 million.<sup>186</sup>

On 17 August 2021, ITA officially opened ticket sales on its newly launched website ,and the airline will begin its operations on October,15 2021.

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<sup>184</sup> Regional subsidiary of Alitalia, which operates regional flights within Italy.

<sup>185</sup> Alitalia's frequent flyer programme.

<sup>186</sup> *"Alitalia: logo, slot e "MilleMiglia" valgono 220 milioni di euro"* (in Italian). Corriere della Sera. 28 October 2020. Available at: [https://www.corriere.it/economia/aziende/20\\_ottobre\\_28/alitalia-logo-slot-millemiglia-valgono-220-milioni-euro-a73da470-1883-11eb-8b6a-8e17b1e81f26.shtml](https://www.corriere.it/economia/aziende/20_ottobre_28/alitalia-logo-slot-millemiglia-valgono-220-milioni-euro-a73da470-1883-11eb-8b6a-8e17b1e81f26.shtml). Accessed on August,17 2021.

### 3.5 THE IMPACT IN GERMANY

As in Italy , the measures taken by the German government at the beginning of the crisis immediately led to a huge drop in business aviation traffic, which stabilized at around -70%. Nevertheless, the recovery in Business aviation has been ahead Europe's average.<sup>187</sup>

Germany lost nearly a million flights compared to 2019 and over a hundred and fifty million passengers. Flights to/from/within Germany were, in 2020 65% down on previous year and the number of passengers was 83% down.<sup>188</sup>

In Germany, the impact of the pandemic has been seen mostly on many little airlines' bankruptcies, as already said in paragraph 2.4.2 and 2.5.1.

In 2020, over 40 airlines have gone into protective shield proceedings or directly into full insolvency. In 2019, around 227 million passengers were carried in Germany and a total of 4.8 million tons of air freight was carried.

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<sup>187</sup> Year to date performance. EBAA. Available at: <https://www.ebaa.org/industry-updates/a-deeper-look-covid-19-impact-on-business-aviation-by-country/>. Accessed on July,29 2021.

<sup>188</sup>Eurocontrol traffic report (2020). EUROCONTROL. Available at: <https://www.eurocontrol.int/publication/covid-19-impact-eurocontrol-member-states-germany#:~:text=%E2%80%9CGermany%20has%20lost%20nearly%20a,is%20again%20falling%20at%20present.%E2%80%9D>. Accessed on July,29 2021.

### **3.5.1 Aviation industry in Germany**

Air transport forms an essential basis for business and private travel as well as for the transport of goods. The aviation industry account for more than 800,000 jobs in Germany and is thus a driving force of progress and an important economic factor, it is a milestone of German transport sector.<sup>189</sup>

On top of this, the sector is estimated to support a further 189,000 jobs through the wages it pays its employees, some, or all of which are then spent on consumer goods and services. Foreign tourists arriving by air to Germany, who spend their money in the local economy, are estimated to support an additional 299,000 jobs. In total 1.1 million jobs are supported by air transport and tourists arriving by air<sup>190</sup>.

The companies in the air transport and aviation industry contribute over 60 billion to the value added in Germany. It is in the interests of the economy and consumers to maintain the performance and quality of Germany as an air transport location, to safeguard the know-how of the industry and its skilled workforce, and to promote its sustainable effects on value creation and employment<sup>191</sup>.

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<sup>189</sup> “Aviation provides more than 800,000 secure jobs in Germany”.BDL (2021). Available at: <https://www.bdl.aero/en/topics-and-positions/the-importance-of-air-transport/aviation-provides-more-than-800000-secure-jobs-in-germany/>. Accessed on July,29 2021.

<sup>190</sup> *Aviation Benefits Beyond Borders report*. (2018). Oxford Economics

<sup>191</sup> “The air transport sector makes a major contribution to Germany’s economy”. IATA report (2020). Available at : [www.iata.org](http://www.iata.org). Accessed on July,29 2021

The air transport industry is indispensable for Germany as a business location.

The pandemic-related, prolonged decline in global air traffic poses unprecedented challenges for the companies in the air transport industry and their employees with unprecedented challenges, and in many cases threatens their existence. All areas of the value chain are equally affected: aircraft manufacturers, airports, service and aviation security companies at the airport locations. It is in the common, central interest to ensure the reliable continuation of the German air traffic.

### **3.5.2 The role of airports in Germany**

Airports are a central infrastructure for air traffic in Germany. Despite the pandemic-related decline in traffic, they remained open for the most part.

In order to maintain operational readiness, joint efforts of the shareholders are needed to secure the economic basis of the airports in the medium term. The regulations governing short time working allowances are an important building block. The aim is also to secure workplaces at the airports in the long term, not only in the short one. Smooth air traffic operations are ensured by numerous service providers who, with their commitment and flexibility, have helped to ensure the flexibility and to maintain the functionality of air traffic as a mode of transport, also during the first wave of the pandemic. These service providers continue to be ready

to provide their services and maintain the safety standard of the air transport system.

### **3.6 LUFTHANSA**

Lufthansa, during the pandemic applied a different strategy to overcome the crisis, making it differently with Alitalia.

Lufthansa is a traditional airline, or “legacy carrier”, being part of an airline alliance, Star Alliance.<sup>192</sup> However, in the case of traditional alliances - Star Alliance, SkyTeam<sup>193</sup> or Oneworld<sup>194</sup> - which have shown stagnant development over the past five years, this trend can be observed only to a limited extent. Instead, in many cases airlines are opting for cooperation on a bilateral basis, even with competitors from other airline alliances. This course has been significantly accelerated by the current situation but is not necessarily permanent.

While the COVID-19 pandemic appears increasingly under control, the crisis will continue through the middle of the decade. Faced with the forecast of a slow recovery, airlines will evaluate and adopt different strategies. Many airlines have already opted to permanently downsize of their fleets, as Lufthansa did,

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<sup>192</sup> Star Alliance is the largest global airline alliance in the world. It is headquartered in Frankfurt am Main, Germany. The alliance was founded on May 14, 1997 by United Airlines, Lufthansa, Air Canada, Scandinavian Airlines and Thai Airways International and currently includes 26 airlines.

<sup>193</sup> Air France, Alitalia and KLM are part of Skyteam.

<sup>194</sup> Qantas, British Airways and American Airlines are members of it.

demonstrating flexibility in their own business models and route networks. Therefore, to maintain connectivity, cooperations are essential, but not necessarily to be found within their own traditional alliances<sup>195</sup>. Therefore, we will see more partnerships soon - from simple codeshares<sup>196</sup> to acquisitions inside or outside the own alliance. Whether these collaborations are long-lasting depends on the individual market situation. Being able to rely on partners, whether through existing contracts and alliances or new agreements, will nevertheless be of great importance for the future in a post-COVID era.

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<sup>195</sup> This is the case of LATAM and Azul, which have been working more closely together in the Brazilian domestic market since August 2020 during the crisis but announced that the agreement would expire after just one year.

<sup>196</sup> Code sharing is a partnership between two airlines that allows an airline to place its two-letter identification code on the flight schedules of another airline. This means that flights can be marketed by one airline and operated by another.



### **3.6.1 ReStructure programme**

Lufthansa, after the first wave of the pandemic in 2020, created a programme called ReNew, made up by 4 modules: *ReStructure, ReOrg, ReFocus and RePay*.<sup>197</sup>

Since this restructuring, the intention is to improve profitability and cash flows, refinance and repay the funding from the government financial support package as quickly as possible and achieve the strategic objectives.

ReStructure combines the decentralised restructuring programmes for the airlines and Aviation Services. Its main goal is to catch up with the leading competitors in the respective markets in terms of profitability. The focus is on the implementation of a much smaller and more efficient production structure. This entails a reduction of the operating fleet by around 150 aircraft, as well as the currently planned reduction of the workforce by some 27,000 full-time workers, which cannot be maintained long-term with the lower production volumes.

ReOrg aim is to implement a more efficient organisational structure, including changing Lufthansa Airlines into an autonomous company as well as restructuring the Group Functions and matrix process organisation.

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<sup>197</sup> Group strategy. Lufthansa group. Available at: <https://investor-relations.lufthansagroup.com/>. Accessed on August,2 2021.

ReFocus aims to concentrate the Lufthansa Group even more severely on its core airline business, so that the portfolio of operating segments is made up exclusively of synergistic units.

RePay aims to plan, coordinate, and implement the refinancing and prompt repayment of all the funding received from the German government support packages and existing financial liabilities on the best possible terms.<sup>198</sup>

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<sup>198</sup> *Lufthansa Group strategy* (2020). Lufthansa Corporate. pp 17-18. Available at: <https://investor-relations.lufthansagroup.com/en/corporate-facts/group-strategy.html>. Accessed on August,3 2021.

## CONCLUSIONS

As I have discussed throughout this thesis, the pandemic has dramatically changed the aviation sector. In this work, I took as points of interest two countries with the two respective flag airlines : Alitalia and Lufthansa; behind this choice there is a motivation.

Alitalia regarding Italy, which was the first European country to be hit by Covid-19 and its delicate financial situation, which has seen many rescue plans from the Italian government.

Regarding Lufthansa and Germany, it was of great relevance to explain how the biggest European carrier managed this unprecedented situation and how the pandemic affected its operations, as described in the end of chapter 3.

The pandemic deeply changed the way people travel with airplane, due to the new hygienical measures which will be brought for years ahead.

The deepest point of all this situation was the big financial difficulties, that airlines had (mostly the flagship ones), which has seen many bankruptcies and rescue plans. This situation also marked a big border line between the low-cost sector, which survived the pandemic on its own force and, on the other side, the “legacy” sector which was about to go in a general stagnation and stop.

From the economic point of view, these two segments may let us reflect on how the market rapidly and substantially changed in the last twenty years, with the arrival of the “ultra-low cost” carriers.

Regarding the recovery, now governments and supranational institutions have to decide whether they have to help with public aid or let the airlines try to survive by their own, making a big change in the market.

For example, the European Commission will propose tailored regulations to partially exempt airlines from their airport slot use restrictions, under the EU law in order to help mitigate the effects of this pandemic.

In order to minimize transmission of diseases, such as COVID-19, airports will seek automated, hands-free, self-processing options for passengers during the flight. Some approaches now exploit touchless biometrics, such as iris scanning and face recognition. COVID-19 may well be a mechanism that promotes the widespread acceptance of touchless technology. Countries need to apply an immunity passport showing the vaccination from COVID-19 similar to the current measure that is applied in different countries across the globe.

With this work, I want to be clear that the situation faced is without precedent, so I hope it will help to understand, how deep the effects of a pandemic are, in terms of economy, growth, sustainability and social behaviour.

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