

Covid-19 Pandemic effects on Aviation Industry Analysis

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Abstract—Coronavirus disease 2019 (COVID19) is an infectious disease caused by a virus, severe acute respiratory syndrome coronavirus 2. The disease originated in Wuhan, China, and has spread worldwide, resulting in an ongoing pandemic. This paper will analyze the impact of this pandemic on the aviation industry.

Keywords—covid19, civil aviation, analysis

INTRODUCTION

Since its inception, the COVID19 pandemic has hit many industries hard, but fewer have been as negatively impacted as air travel. Due to travel restrictions and widespread consumer anxiety, many airlines struggled to fill seats in the early months of the pandemic. This has stemmed from travel restrictions. A significant drop in passenger volume leads to canceled or empty flights between airports, significantly reducing airline revenue and forcing many airlines to lay off staff. Some even went on declaring bankruptcy. Some airlines have tried to avoid refunds for canceled trips to cut their losses. Aircraft manufacturers and airport operators also have laid-off employees. According to the statements made in early 2020, this has been the worst disaster in the history of the aviation industry. Planemaker Airbus has warned that it could take up to five years for the aviation industry to return to pre-coronavirus levels[1], as customers like British Airways try to ensure their survival by slashing cargo. Thousand jobs. ON WEDNESDAY, Airbus CEO Guillaume Faury warned that it could take "three to five years" before passengers are ready to fly like they were before the crisis.

I. IMPORTANCE OF AIR TRANSPORT AS PART OF ECONOMY

First, air transport relies on several upstream sectors: supporting air transport operations (including airport operations), aircraft manufacturing; rental and rental services; and production of refined petroleum (including biofuel blends). In particular, the nature of the air transport sector and the airport is related. Split ownership is common, either by private entities (e.g., Lufthansa holds a minority stake in Frankfurt Airport) or by the public sector. Second, air transport is a significant input to downstream industries. It facilitates several economic activities through trade in goods and especially services through the movement of natural persons. i.e., trade in services by mode 4). Air cargo is essential for the smooth functioning of the global supply chain.

II. OVERALL IMPACT ON THE AVIATION INDUSTRY

At the beginning of March 2020, 10% of all flights were canceled compared to 2019. As the pandemic progressed, 40 to 60 flights were recorded at the end of March, of which international flights were affected. Benefit the most. In April 2020, more than 80% of flights were restricted in all regions.

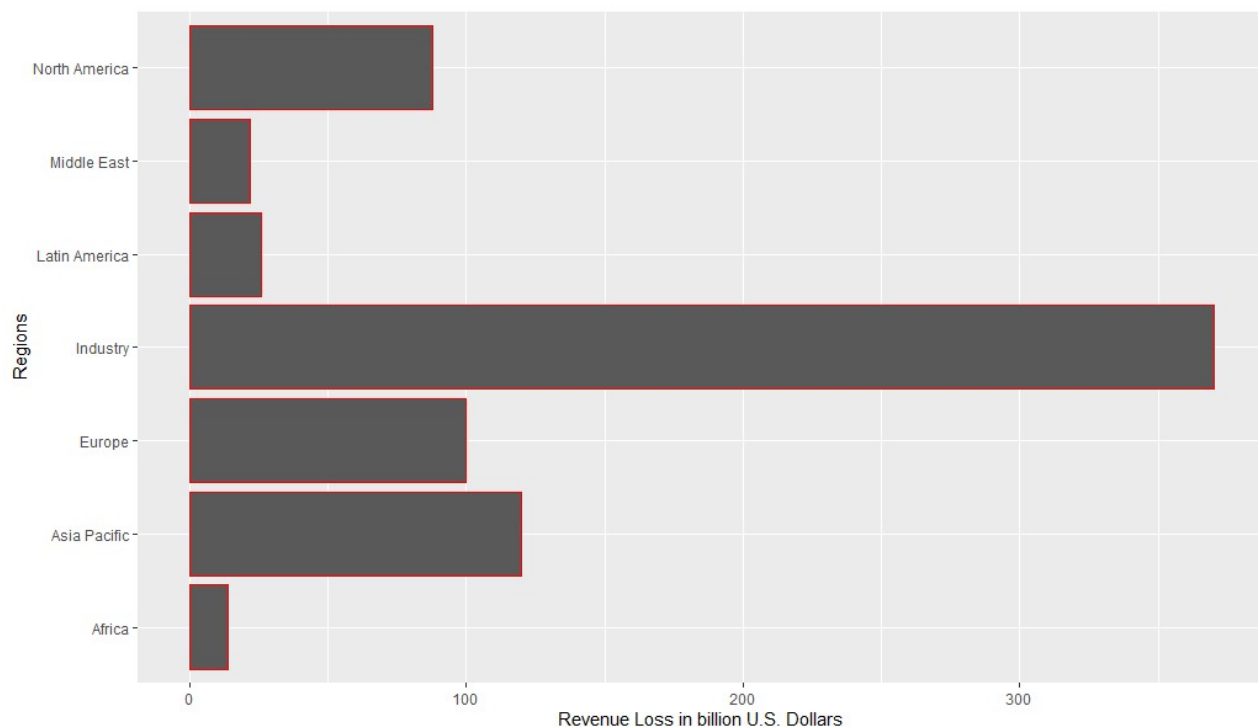
[1] Research shows that the global recovery of passenger demand to pre-COVID19 levels is expected to take 2.4 years (recovery by the end of 2022), with the most optimistic estimate being two years (recovery in mid-2022) and the most pessimistic assessment of 6 years (recovery in 2026). Significant differences between regions were detected: Asia-Pacific had the shortest estimated mean recovery time of 2.2 years, followed by North America at 2.5 years and Europe at 2.7 years. The global average recovery time for air freight demand is 2.2 years shorter than expected for passenger demand. Regionally, Europe and North America are comparable with an average recovery time of 2.2 years, while Asia-Pacific is predicted to have faster recovery of 2.1 years. We will explore the influence of the pandemic on the different sectors, and finally, we'll look at how this pandemic has affected Airports on which I will base my analysis.

A. Air Cargo

When passenger flights are canceled, the cost of air freight changes rapidly. The cost of sending goods across the Pacific tripled in March 2020. [2]. Adjusted freight capacity fell 4.4% in February 2020, while freight demand in Aviation also fell 9.1%. Still, the virtual standstill in passenger traffic continues to reduce capacity as half of the world's air freight is carried by passenger aircraft. Airfreight rates have increased accordingly, from \$0.80/kg for transatlantic cargo to \$2.50-4/kg, prompting passenger airlines to operate cargo-only flights. Through first-person, airlines have brought fuel-hungry stockpiles back into service. By oil failure. price. [3] Passenger airlines are encouraged to switch aircraft. [4]. The freight shortfall could evaporate if the global economic crisis dampens demand: The WTO forecasted world trade to decline by 13-32% in 2020. [5]. International Corresponds between many countries has been completely shut down, either due to suspension of domestic services or lack of means of transport. [6]. However, Business aviation was impacted to a lesser extent. London Biggin Hill Airport stated the business air traffic to be somewhere 29% of 2019 levels. Air cargo throughput is up 40% year-on-year in 2020 and another 15% in 2019. The tonnage factors have also increased significantly, by about ten percentage points in 2021 compared to 2019. We expect freight volumes to decline over the next 2-3 years but to remain above levels in 2019 due to the constant supply and demand gap.

B. Airlines

While the COVID19 pandemic has affected airlines more than any other airline sub-sector, it hasn't performed particularly well before. Despite a favorable environment between 2012 and 2019 due to strong economic growth and low fuel prices, airlines lost \$17 billion in economic profits each year. Of the 122 carriers we studied, 77% were value



destroyers (Figure 3). But airlines' average losses before the pandemic are only about a tenth of their \$168 billion in losses for 2020. Their revenues fell 55%, sending the subsector down to, in nominal terms, about 16 years old, until 2004. All regions contributed to the overall loss in 2020, including North America, outpacing the rest of the world between 2012 and 2019, when their airlines recorded gains. Cumulative economic profit of \$44 billion (Figure 4). Five of the ten most successful airlines in the world during this period were based in the United States, as years of consolidation and restructuring have left the North American market with a few large, prominent players. However, the pandemic did not spare them, and they lost \$63 billion in 2020. According to the estimates by IATA, revenues increased by about 27% in 2021 compared to 2020, but according to data were still 44% lower than what they were in 2019.

C. Manufacturers and lessors

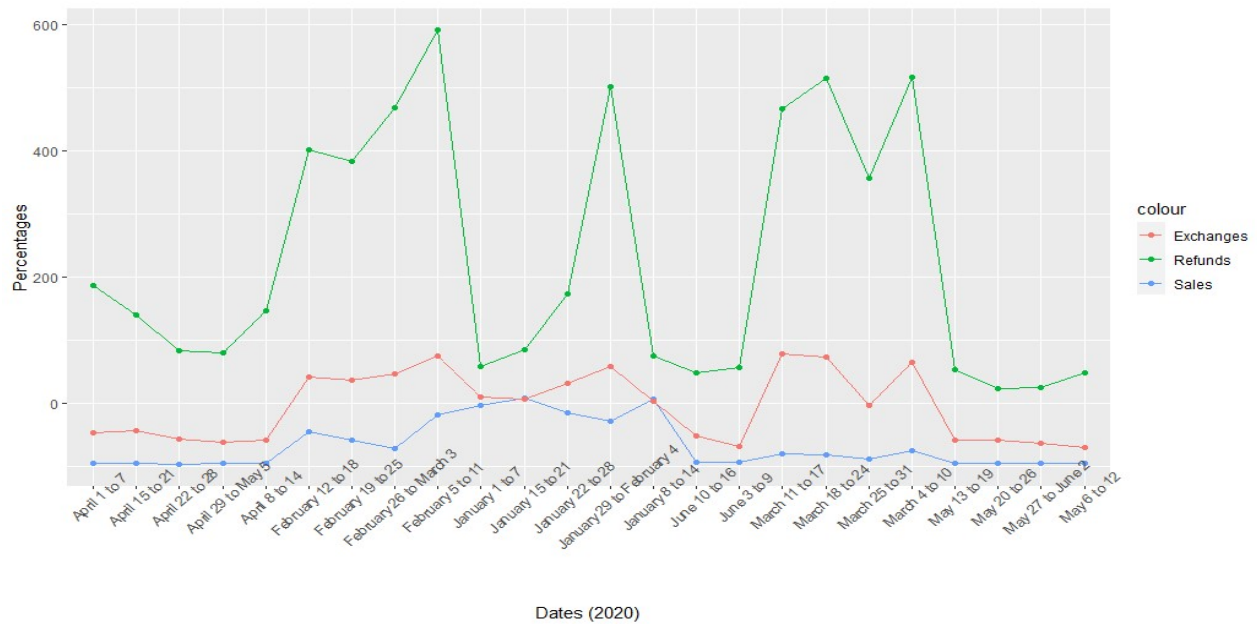
Aircraft manufacturers will be third-party sub-sectors in 2020, leading to 12 billion-dollar losses. The reason is simple: Airlines in financial difficulties set fewer orders for new aircraft and disseminate delivery. Commercial aircraft orders decreased by about 55% by 2020 compared to the previous year, while the number of postponed aircraft deliveries multiplied by the year. In 2019, charges were returned but still 10% compared to their level in 2019. There was also a double postponement compared to two years ago.

The lessors had average pre-pandemic performance, neither reaping large profits nor suffering significant losses. The sub-sector has been under considerable pressure during the pandemic. Many airlines have asked for - and been granted - a deferral of rent payments. New aircraft rental prices are much lower due to oversupply; For example, rents for wide-body aircraft (such as the Boeing 7879) fell by about 35% in 2020 from the

previous year's levels, recovering only 10% in 2019. Worse still, many charter airlines, especially in Asia, are struggling financially and looking to renegotiate contract terms, with hourly contracts preferred. Some airlines have gone through Chapter 11 (or similar bankruptcy proceedings) to restructure their leases.

D. Airports and Air Navigation Service Providers

Until the pandemic broke out, airports created more value than any other aviation subsector in most regions except North America (Table 5). Globally, airports earned an aggregate annual economic profit of \$5 billion, on average, from 2012 to 2019, when their economic profit margin was around 3%. Airports in the Asia-Pacific region perform exceptionally well and are highly competitive, benefiting from solid demand and a favorable regulatory environment. But the pandemic has exposed a challenge inherent in most airports' business models: high fixed costs and largely variable revenue streams. The drop in traffic has resulted in heavy economic losses amounting to \$32 billion, or 45%, by 2020[8]. Airports Council International estimates that airport performance improved somewhat in 2019, drawing in 26% more revenue than 2020. However, in 2019's income was still 50% lower than in 2019. The ANSP, the air traffic safety regulator, is primarily a public organization, although some countries, including the UK and Canada, have private organizations. These air traffic operators have significant infrastructure costs and employ a highly skilled workforce, which often means high fixed costs. Before the pandemic, this sub-sector had managed to achieve marginal returns, averaging around 0.3% of economic returns from 2012 to 2019. As the revenue of this sub-sector is most volatile and related to the plane, it has suffered a significant loss in 2020.



III. PRIOR ANALYSIS

Airports generate more than 95% of total revenue from airline and non-aviation services from two operating sources.

A. Ticket Refunds in Japan

The airport industry was expected to achieve approximately \$ 188 billion in Japan's air travel sales for the week of June 10-16, 2020, were down 93% compared to the same week last year. This has been a decrease of more than 90% for 11 consecutive weeks since the coronavirus (COVID19) pandemic. Between February 5, 2020 and February 11, 2020, refund transactions peaked at a 591 percent increase over the previous year. Following the global outbreak, the Government of Japan has increased restrictions on domestic air travel and gradually suspended the validity of most visas issued by Japanese embassies abroad.

B. Retrospection at 2020

The airport industry was expected to achieve approximately \$ 188 billion in 2020 before COVID19. The impact of the airport sales during the COVID19 crisis decreased in the baseline, nearly 12.5 billion sales. See Table 3. In the second quarter the second quarter of 2020 contributed to a decrease in US dollars near \$ 43.5 billion compared to the projected baseline. As with passenger traffic, Europe and the Middle East, some areas were most affected. Europe experienced an estimated 4 billion revenue shortfalls in 2020. In Europe and the Middle East, revenues in 2020 were down 70.5% compared to the projected baseline.

C. Future Projection

Before the outbreak of COVID19, the airport industry was expected to generate more than \$ 175.8 billion in revenue in 2022[7]. However, the impact of the COVID 19 crisis on

airport revenue will continue in 2022, with the additional US \$ 60.8 billion, or 34.6 billion%, a reduction compared to the projected baseline. Airport revenues in 2022 are expected to reach just 72.6% of 2019 levels. See Table 3. All regions are expected to achieve more than half of 2022's projected sales. The Asia Pacific and the Middle East will continue to be the two most hit regions, with revenues of 48.8% and 43.2% in 2022, respectively, compared to forecast bases. The Asia-Pacific region and Europe recorded the most considerable losses in the region in 2022, with \$ 23.1 billion and \$ 19.5 billion, respectively, despite the significant recovery in Europe later this year. Reduce Africa is also expected to record above-average sales growth in 2022. By the end of the year, revenues in the region are expected to decline 39% compared to the projected baseline (down 23.1% from 2019 levels). North America and Latin America / Caribbean countries are also likely to perform better than other regions in 2022. It is expected to record an 18.0% and 24.6% deficit compared to the predicted baseline (down 10.7% and 16.2% compared to 2019, respectively).

- [1] "How airports globally are responding to coronavirus (updated frequently)," *Aislelabs*, 05-Jun-2020. [Online]. Available: <https://www.aislelabs.com/blog/2020/03/27/how-airports-globally-are-responding-to-coronavirus-updated-frequently/>. [Accessed: 06-Apr-2022].
- [2] J. Bouwer, V. Krishnan, S. Saxon, and C. Tufft, "Taking stock of the pandemic's impact on Global Aviation," *McKinsey & Company*, 01-Apr-2022. [Online]. Available: <https://www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/taking-stock-of-the-pandemics-impact-on-global-aviation>. [Accessed: 06-Apr-2022].
- [3] "Potential turning point in the recovery of travel as latest air traffic data revealed," *ACI World*, 24-Feb-2022. [Online]. Available: <https://aci.aero/2022/02/24/potential-turning-point-in-the-recovery-of-travel-as-latest-air-traffic-data-revealed/>. [Accessed: 06-Apr-2022].
- [4] C. Assis, "United Airlines says Coronavirus Pandemic is worst crisis 'in the history of Aviation'," *MarketWatch*, 01-May-2020. [Online]. Available: <https://www.marketwatch.com/story/united-airlines-says-coronavirus-pandemic-is-worst-crisis-in-the-history-of-aviation-2020-04-30>. [Accessed: 06-Apr-2022].
- [5] "Coronavirus/airlines: Cancellations outweigh cheap fuel," *Subscribe to read | Financial Times*, 11-Mar-2020. [Online]. Available: <https://www.ft.com/content/98cb1758-4dc6-4025-8d42-f6aff1ba32bf>. [Accessed: 06-Apr-2022].
- [6] "Airlines may not recover from covid-19 crisis for five years, says Airbus," *The Guardian*, 29-Apr-2020. [Online]. Available: <https://www.theguardian.com/business/2020/apr/29/airlines-may-not-recover-from-covid-19-crisis-for-five-years-says-airbus>. [Accessed: 05-Apr-2022].
- [7] *Bloomberg.com*. [Online]. Available: <https://www.bloomberg.com/news/articles/2020-03-17/airlines-need-up-to-200-bailout-to-survive-virus-iata-warns>. [Accessed: 06-Apr-2022].