COVID-19 and the aviation industry: Impact and policy responses

15 October 2020

Key messages

- Air transport represents a small share of GDP but is closely linked to the activities of other sectors, especially airports and aircraft manufacturing – collectively considered here as the "aviation industry". The aviation industry is a key enabler of many other economic activities.
- The dramatic drop in demand for passenger air transport (and freight, to a lesser extent) due to the COVID-19 pandemic and containment measures is threatening the viability of many firms in both the air transport sector and the rest of the aviation industry, with many jobs at stake.
- While the aviation industry has often been a target of government policies, the COVID-19 crisis has precipitated a new suite of loans, loan guarantees, wage subsidies and equity injections, raising concerns about competition and the efficient use of public resources.
- To promote a sustainable trajectory for the aviation industry, government policies should prioritise sector-wide measures and competition. In particular they need to:
  - *Strike the balance between the need for support and the risk of distorting competition*. In instances where firm-specific support measures are necessary or have been implemented already, these should not tilt the playing field with other firms in the aviation industry.
  - *Preserve business dynamics and allow exit*. As demand may be structurally different from that before the crisis and possibly lower, governments should foster restructuring and avoid backing non-viable firms, but support displaced workers.
  - *Encourage investments in the green transition* and thereby increase the long-term resilience of the aviation industry, for instance by making firm-level support decisions contingent on environmental improvements.
  - *Address sustainability along the whole aviation value chain*, including aircraft manufacturers and airports. Since co-ordination across sectors and with other policies is crucial, policy responses to the COVID-19 crisis in the aviation industry should be integrated in the low-carbon transition strategies implemented or under discussion in many OECD countries.

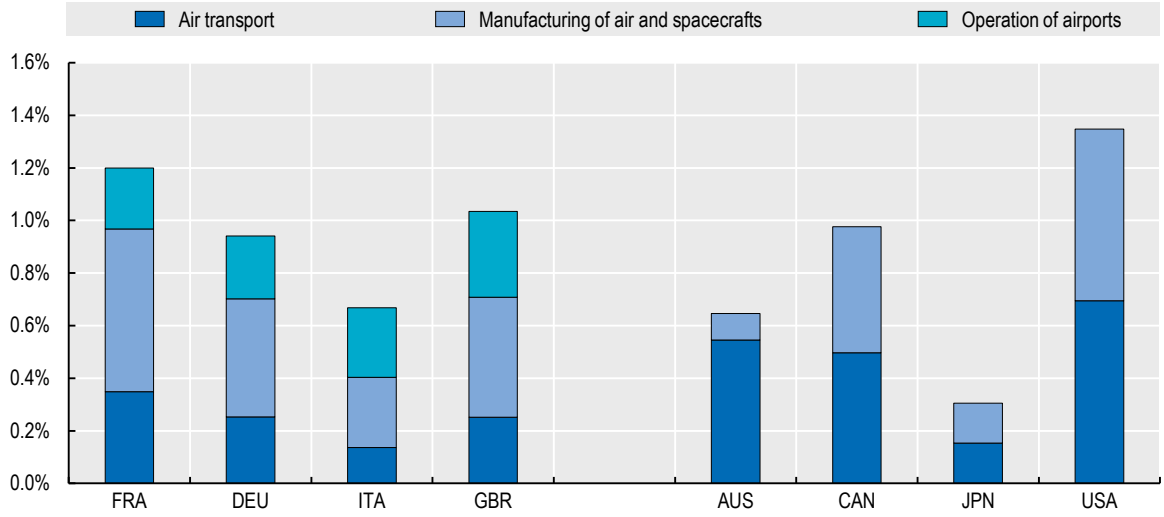
Air transport is a small but important part of the economy

The air transport sector (passenger and freight) represents only a small share of OECD countries' value-added (around 0.3 % on average, see Figure 1). Yet, strong inter-industry linkages with both upstream and downstream sectors make it an important part of the economy.

First, air transport relies on several upstream sectors: support activities to air transportation (including the operation of airports); aircraft manufacturing; rental and leasing services; and refined petroleum manufacturing (including the blending of biofuels). In particular, the air transport sector and airports are inherently intertwined. Some airports depend heavily on one or a few companies that use it as a hub. Shared ownership is common, either by private actors (e.g. Lufthansa owning a minority share in Frankfurt's airport) or by the public sector. The OECD Indicators on Product Market Regulation show that in 2018, the public sector was a shareholder of the largest domestic airport in three out of every four OECD countries and of the largest air carrier in one out of three countries. Moreover, aircraft manufacturers are highly dependent on demand from the air transport sector, directly or through leasing companies. Because both the activity level and the strategic decisions concerning air transport, airports and aircraft manufacturing are linked, this brief considers them jointly as the "aviation industry".

Figure 1. Size of the aviation industry, selected OECD economies

Share in total value added, 2017



Note: Industries based on ISIC Rev.4 classification (Air transport: Division 51; Manufacturing of air and spacecrafts: Group 303; Operation of airports: Class 5223). Value-added for the operation of airports not available in Australia, Canada, Japan and the United States. Data from 2016 for Canada and 2018 for the United States.
Source: Calculations based on the OECD STAN Database, http://oe.cd/stan.

Second, air transport is a key input for downstream sectors, as it enables several economic activities by way of trade in goods and especially in services through the movement of natural persons (i.e. mode 4 services trade). Air cargo is essential for the smooth operations of global supply chains. Business travel is an important channel of international knowledge transfer. The availability of non-stop intercontinental flights is an important determinant of the location of large firms' headquarters, even though the impact of airports on local economic activity is debated. The readiness of flights reaching a large number of destinations is also instrumental for tourism, in particular international tourism.

Beyond inter-industry linkages, air transport is characterised by both complementarity and substitutability with other modes of transport, especially high-speed rail on short- and medium-haul routes. Under pre-COVID conditions, the International Energy Agency estimated that 14% of global flights could be competitively shifted to high-speed rail. Yet, air transport remains essential for territorial cohesion and development convergence as it is often the only viable way of connecting peripheral regions.

When the COVID-19 crisis hit air transport, the whole aviation industry was affected

The change in the behaviour of passengers following the COVID-19 crisis, travel restrictions and the ensuing economic crisis have resulted in a dramatic drop in demand for airline services. According to IATA, passenger air transport measured as revenue passenger kilometre was down 90% year-on-year in April 2020 and still down 75% in August. The collapse in economic activity and trade affected freight, which was almost 30% lower year-on-year in April and still about 12% lower in August.

The size of the shock has put the liquidity buffers of airline companies under pressure, even if a significant share of its costs are variable (around 50% according to IATA, notably fuel accounting for 25% of the total costs) and the recent drop in oil prices has decreased airlines' operating costs.

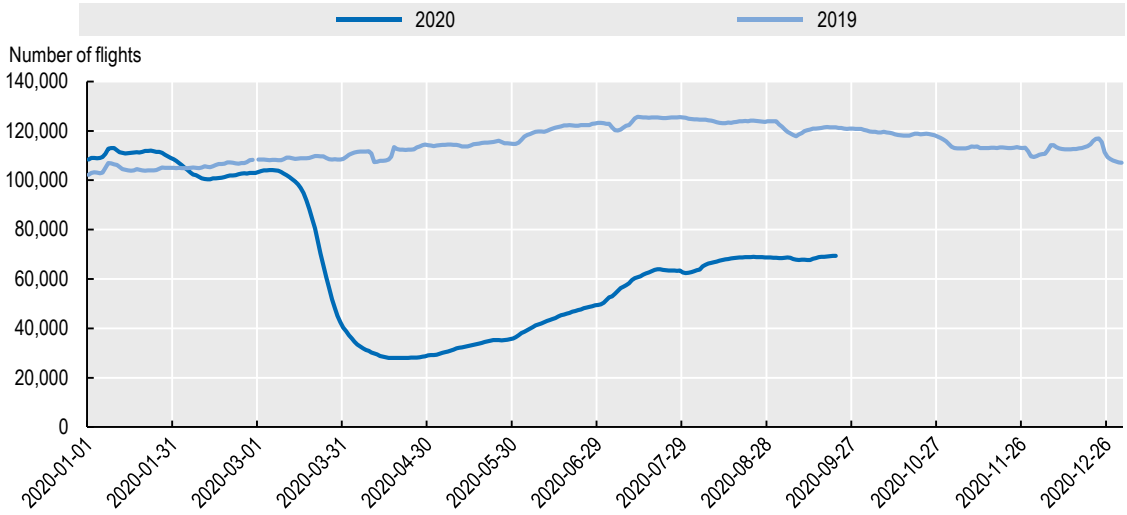
In the medium run, airline companies face two uncertainties:

- *The cost of health-related measures*. Operating costs are likely to increase in the short-run for both airlines and airports because of additional health and safety requirements (e.g. disinfection, PPE, temperature checks or viral tests) before they can be passed on to consumers. Moreover, if implemented for air transport, social distancing measures could force a reduction in the passenger load factor (i.e. the number of seats that can be occupied during a flight) by up to 50%.
- *The shape of the recovery for commercial flights*. International travel restrictions, the contraction of economic activity and changes in transport behaviour by cautious consumers may prevent a return to pre-crisis demand levels, even as lockdowns and domestic travel restrictions measures are loosened in many countries. Commercial air traffic is slow to recover: as of September 2020, the number of flights remains more than 40% below pre-crisis level globally (Figure 2). This hides differences across flight lengths: the drop is even more pronounced for long-haul flights. In the longer run, changes in consumer behaviour may result in structural changes in air transport demand. Even though the rebound of domestic flights in China suggests that traffic may revert to pre-crisis levels, a permanent drop in demand from pre-crisis levels cannot be excluded, either through modal shifts in services trade (e.g. video-conferencing instead of business travel) or, to a lesser extent, through substitution with other modes of transport (e.g. high-speed trains).

The combination of negative demand and supply shocks and the uncertainty around the medium-run outlook create an uncertain perspective for airline companies. Through inter-industry linkages, this uncertainty affects the whole aviation industry. Moreover, the industry remains exposed to a possible resurgence of the pandemic, as governments may impose new air travel restrictions to tackle flare-ups or a potential second wave of infections. This may threaten the existence of some firms in the industry, as production and revenues are likely to remain inferior to pre-crisis levels for some time.

Figure 2. Commercial air traffic, world

Number of flights tracked daily by Flightradar24, 2020 v. 2019



Note: 7-day moving average of the number of commercial flights tracked by Flightradar24 per day (UCT time). Commercial air traffic includes commercial passenger flights, cargo flights, charter flights and some business jet flights; it does not include private flights, gliders, helicopter flights, ambulance flights, government flights, military flights or drones.
Source: FlightRadar24 Statistics, flightradar24.com.

Airline companies were in very different situations before the COVID-19 crisis began. In particular, air transport is one of the sectors with the highest dispersion in productivity across firms and, to a lesser extent, in profitability. Airline companies thus entered the crisis with strikingly different abilities to withstand such a shock and heterogeneous prospects for the future.

Bankruptcies or mergers and acquisitions among large companies could have a negative effect on competition in air transport, with possible repercussions on prices. Even if 80% of passenger seats are on routes with several carriers, many of these routes rely on a small number of firms (36% of routes involve only two or three carriers).

Aviation is often a target of policy intervention, and even more so with COVID-19

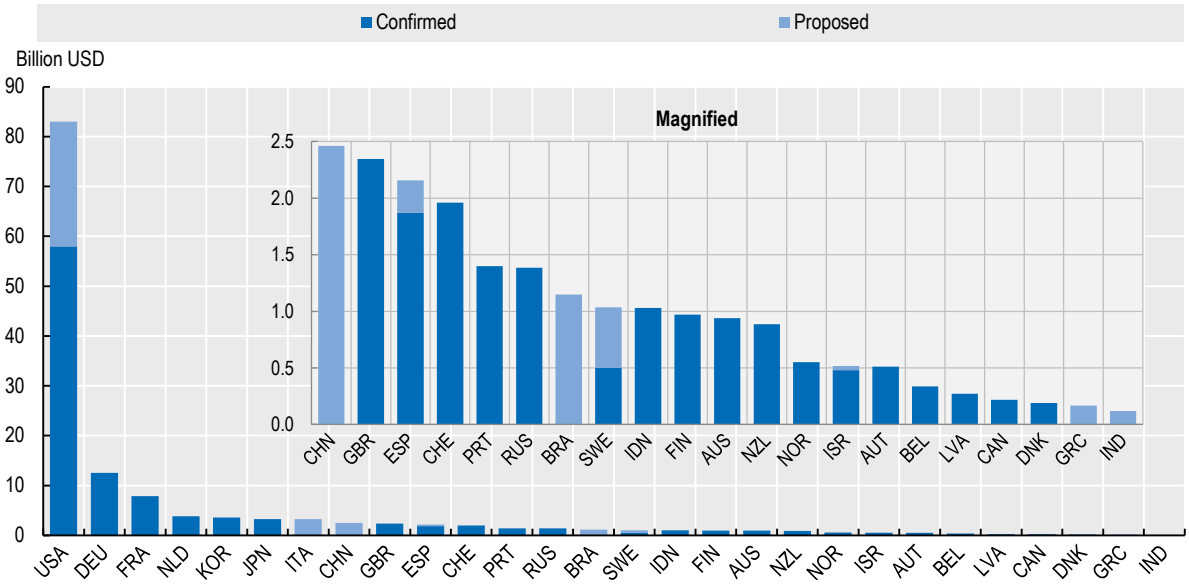
Past public policy interventions in the aviation industry have had different rationales. Most interventions have targeted aircraft manufacturers. These firms are usually subject to learning-by-doing and significant economies of scale, which may cause under-investment in technology, innovation or production facilities and, hence, justify public support. Public policies have also aimed at co-ordinating a wide array of suppliers and different know-how, and ensuring aircraft safety. More recently, aircraft manufacturers have also been the target of green industrial policies, seeking to accelerate the shift towards low-carbon aircraft. Beyond supporting aircraft manufacturers, governments have also intervened to preserve employment in large air transport companies.

When it comes to the response to the COVID-19 crisis, most of the sector- or firm-specific measures thus far have targeted air transport. As of August 2020, governments have provided about USD 160 billion of support to airlines (Figure 3). Almost two-thirds of that support consists of direct aid (subsidies, loans, equity, cash injection), while one quarter takes the form of wage subsidies. Interventions have generally taken three forms:

- Untargeted support schemes, designed to provide liquidity to firms irrespective of their activity, including the extension of existing job-retention schemes or the introduction of new ones;
- Sectoral schemes (e.g. airlines operating in Australia or the whole aviation industry in France), including those supporting airline workers (e.g. the Payroll Support Program in the United States);
- Firm-specific support measures, including partial or total nationalisation, implemented by some countries because of the presence of large companies in the air transport sector (e.g. Alitalia, Lufthansa).

Figure 3. Government support to airlines in the aftermath of the COVID-19 crisis

Monetary value of relief measures for airlines across economies, as of August 2020



Note: Proposed or confirmed, monetarily quantified relief measures for airlines provided by governments or government-backed entities across 57 countries as of August 20, 2020 in billion USD, Measures include: government-backed commercial loans and government guarantees; recapitalisation through state equity; flight subsidies, nationalisation; deferral and/or waiver of taxes and charges; grants; and private equity.
Source: Adapted from Abate et al. (2020) "Government support to airlines in the aftermath of the COVID-19 pandemic" https://doi.org/10.1016/j.jairtraman.2020.101931.

As the crisis lingers, governments may resort more to equity injections. Even if airline companies did not appear to enter the crisis with higher leverage than firms in other sectors, their debt level could increase by as much as 28% in 2020, according to IATA. Absent any equity injection, this would significantly affect their capacity to finance new investments and, for some firms, affect their solvency.

The COVID-19 crisis has reinforced some of the rationales that were previously used to justify support to the aviation industry. In particular, liquidity challenges, increasing debt burdens and uncertain prospects can jeopardise crucial investments to reduce the industry's carbon intensity, notably the acquisition of more fuel-efficient aircraft.

Whereas industrial policy in the aviation industry has primarily focused on aircraft manufacturers, the crisis exposed the crucial role of air transport and airport infrastructure for the connectivity of peripheral areas (in particular islands). In several countries (France, Greece, Iceland, Italy, Spain, Norway, Portugal), retail tariffs of air carriers for domestic transportation are regulated and sometimes subsidised as a result of a public service obligation on certain routes.

Looking ahead, policy interventions should foster the resilience and sustainability of the aviation industry

Governments have to strike the balance between support to the aviation industry and the need to preserve competition, in particular when considering firm-specific measures

Government interventions can have ambiguous effects on competition. On the one hand, the failure of a small number of companies could significantly lower competition while their rescue can prevent that from happening. On the other hand, equity injections may put at risk the 'competitive neutrality' of the state and affect the access of foreign companies to the domestic market. Good governance of state-owned enterprises is essential to avoid negative effects on competition, and also to promote the efficiency of the controlled firms. Measures to foster competition should in particular focus on lowering the costs of entry, for instance by reserving relinquished airport slots for new entrants.

Governments' priority should be to preserve business dynamics in the aviation industry

If not well-designed, government interventions can slow business dynamics and ultimately productivity growth. If they go beyond sector-wide interventions and provide firm-specific support, governments should only target solvent and productive companies. As in any other industry, governments should avoid supporting non-viable companies; rather, they should allow exit and promote resource reallocation. In practice this calls for sector-wide measures and boosting competition.

The risk that government interventions negatively affect business dynamics and productivity may be particularly acute for air transport, given the high dispersion of profitability and productivity across firms in the sector. With demand likely to remain muted in the medium run, the sector has started to adapt and downsize. In this context, governments should enable downsizing rather than counter it, being particularly careful to foster restructuring or exit of the least efficient firms while continuing to target an efficient use of public resources.

In the process of restructuring, government need to smoothen the transition for displaced workers. Besides mitigating costs for firms, job retention schemes protected aviation industry workers' income at the height of the crisis. As uncertainty regarding the cost of health measures and the shape of recovery for commercial flights resolves, job retention schemes need to adjust to target jobs that are viable but at risk of being terminated. At the same time, governments need to focus on supporting aviation industry workers at risk of becoming unemployed, rather than supporting specific jobs.

Policy interventions should encourage investment to improve the sustainability of the aviation industry

Although significant, the reduction in emissions due to containment measures and the economic crisis is likely to be only temporary, and will be inconsequential in slowing down climate change. While the grounding of a significant part of the global fleet could result in the retirement of the least efficient aircraft, the COVID-19 crisis could also reduce or postpone the necessary low-carbon investments due to financial constraints and the recent drop in oil prices. The crisis has already dampened the ambitions of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

Investment in cleaner aircrafts and fuel can contribute to long-term resilience in the aviation industry. Putting firms on a sustainable path can contribute to their long-run viability and mitigate moral hazard potentially induced by the current wave of support. In that respect, governments' interventions should consider the transport sector holistically and, where relevant, consider promoting a shift towards more energy-efficient transport modes, e.g. high-speed rail.

Making firm-level support decisions contingent on environmental improvements may help ensure that firms transition into cleaner technologies and fuels, and that the transition occurs gradually (e.g. the loans and loan guarantees to Air France and Lufthansa). In particular, as shareholders, governments should encourage this shift.

Policy interventions to support investment in sustainability should address the whole aviation value chain, including aircraft and engine manufacturers and airports

Policies should not engage in stimulating demand for aircraft by airlines. The additional costs could jeopardise the solvency of the latter and be ineffective in ensuring a steady flow of orders for aircraft manufacturers.

Moreover, rather than focusing on large players, interventions should ensure that young firms and start-ups are included, for instance through complementary measures (e.g. the French Aeronautics support plan includes funds and subsidies dedicated to small and medium-sized firms). Failing to include young firms may lead to excessive consolidation by the largest players.

Mission-oriented strategies aimed at greening the aviation industry can be a useful tool in this respect, and industrial-policy responses to the COVID-19 crisis targeting the aviation industry should be part of the low-carbon transition strategies implemented or under discussion in many OECD countries. Such co-ordinated packages of policy measures can contribute to addressing societal challenges, in particular by co-ordinating all stakeholders and ensuring the consistency and complementarity of public and private investments.

Further reading

Abate, M., P. Christidis and A. Joko Purwanto (2020), "Government support to airlines in the aftermath of the COVID-19 pandemic", Journal of Air Transport Management, Vol. 89, Elsevier, Amsterdam, https://doi.org/10.1016/j.jairtraman.2020.101931

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