

POLICY BRIEF

EUROPEAN TRANSPORT REGULATION OBSERVER

Towards Resilient and Sustainable Aviation: Implications for Competition and Competitiveness

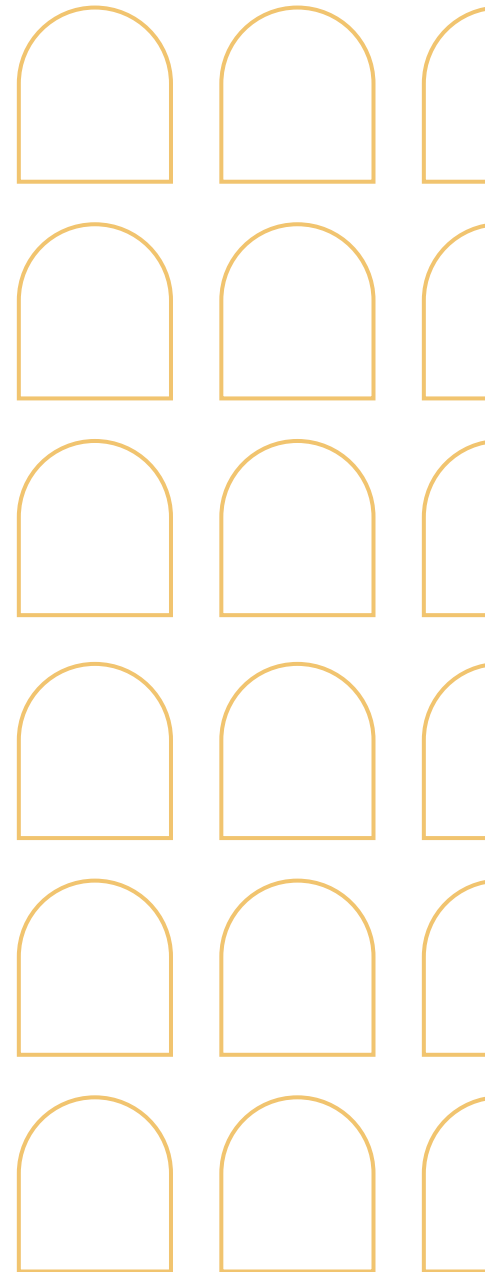
Highlights

The COVID-19 pandemic has almost forced the aviation industry to a halt in 2020, at least when it comes to the provision of passenger services: the number of active routes, as well as frequencies were substantially reduced whereas passenger volumes drastically declined. The impact of COVID-19 on aviation continues to be felt today, as the industry faces an uncertain recovery outlook.

The Commission adopted several emergency measures to support the aviation sector during the pandemic. In particular, the Commission adopted a [temporary framework for State aid rules](#) in 2020, in force until 2022. Thanks to the massive State support approved by the Commission, the aviation ecosystem was able to stay afloat. However, this massive State support has also been asymmetric, as certain Member States have granted much higher amounts of aid than others.

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This impact of COVID-19 on the competitive landscape in which aviation actors are operating must also be placed against the background of decarbonisation objectives, as well as in the context of pervasive digitalisation. The combination of all these forces will inevitably result in a post-COVID-19 aviation industry that is significantly different to the one we know today. Consequently, competition law rules and the regulatory environment may have to be adapted to the new circumstances in the industry, and the different instruments (i.e., State aid, mergers, antitrust and the general EU regulatory framework for aviation) will have to be applied in accordance with the new reality.

Building upon the discussions of the [18th Florence Air Forum](#), this policy brief takes a long-term perspective in examining the industry's resilience and sustainability from both a regulatory and competition law perspective. More specifically, this brief provides an overview of the main structural changes observed in the aviation market, including those pertaining to connectivity, pricing, competitiveness, as well as the changes to business models and travel demand, among others. Furthermore, it draws lessons from the crisis by discussing the effectiveness of the flexible rules introduced by the Commission, the limitations of existing State aid instruments, and not the least, the issue of aid disparities (i.e., airlines vs. airports, and legacy carriers vs. low cost carriers). The possible ways of improving the resilience of the aviation sector is also examined with a view to reducing the amount of State support needed for airlines and airports during the next crisis, whatever shape it may take. Last but not least, against the backdrop of the [Fit for 55 Package](#), this brief explores the role of regulation and/or State aid in ensuring that the pursuit of EU decarbonisation objectives does not compromise the competitiveness of EU airlines and airports.

A Resilient European Aviation Market: Lessons Learnt

A comment by Juan Montero and Matthias Finger, Florence School of Regulation – Transport Area

The COVID-19 crisis has unveiled the limits of competitive markets in aviation. New regulatory instruments are required to reinforce resiliency in case of shocks. Such instruments should protect the continuity of services, but not necessarily the continuity of specific players or established business models. These instruments should be systemic, taking into consideration the interdependency of the different actors of the aviation system (e.g., airlines, airports and ANSPs), they should always focus on Europe and not on a specific country, and they should be coordinated with general transport policy goals.

Aviation has already proven that it can deliver a single European market: aviation has shown that passengers can benefit from new services (more routes) and better prices thanks not only to competition but moreover to competition in a larger European-wide market. As such, aviation can serve as a model for other transport industries.

However, markets have limitations, particularly when it comes to ensuring the general interest, where service continuity is a must. Consequently, risk management is a fundamental challenge in a competitive market. If service continuity is required, public intervention might be able to reduce risks for the market players by assuming a part of it, at least those risks which are beyond the control of market players. COVID serves as an illustrative example, as public authorities have rushed to support market players.

It is widely acknowledged that the public intervention triggered by the COVID crisis has not reinforced a competitive single European market. The financial aid provided by Member States has unlevelled the playing field with obvious asymmetries, both geographically (North vs. South and East) and horizontally (network airlines vs. low-cost carriers; airlines versus airports). State aid control has been stretched to its limits, with interesting innovations such as the temporary framework, conditions on slots, aid linked to load factors, etc. Under the current framework, risk in a European market is managed at a national level, taking into consideration national interests. The COVID crisis has also shown that there is no mechanism to ensure that the necessary crisis management reinforces rather

than weakens competition in the single European aviation market.

It is, however, interesting to see how the post-COVID recovery unfolds, sometimes with surprising results. Indeed, market forces seem to be gaining ground in shaping the industry after COVID. Despite asymmetries in State aid, continued vertical tensions between airports and airlines, and the flexibilisation of slot usage rules, there is evidence that the carriers which were better capitalised before the crisis have been able to better adapt to the shock. The most efficient carriers, even if they have not received financial aid, are growing and gaining market share, profiting from the new opportunities as the sector recovers. This is a trend to be supported, for example, by way of merger controls, as a potential consolidation may reshape the industry.

Still, anticipating new shocks in the future, it will be necessary to develop mechanisms which will allow for public intervention to take some of the risks while minimally distorting competition in the single European aviation market. Also, the need for State aid can probably be reduced, firstly, if market players are better capitalised. Secondly, it would be important to take steps at EU level to counterbalance the asymmetries created by national measures.

Such new instruments should reinforce a more systemic approach to crisis management. Indeed, public intervention should not merely consider the situation of isolated companies (either airlines or airports). On the contrary, one would have to take into consideration how the financial stress spreads across the industry and how the market power of some passes on the pain to others. One should also consider the weakest links in the system, which may require more support as they are more exposed to competition, particularly international competition. Furthermore, the new instruments should not play against competition, for instance by introducing new moral hazards, but reinforce competition, rewarding good practices and efficiency. The system relies on competition to govern the sector, so crisis management policies should reinforce the underlying systemic forces, not weaken them. Finally, the systemic approach should aim to take into consideration the broader European perspective. If the aviation market has grown beyond national borders, a systemic perspective must include the entire single market. A closer collaboration of national regulators, as it exists in other regulated industries, and a more active role for the Commission, can certainly lead to a more effective governance framework. ACER, the European Agency for the Coordination of Energy Regulators,

was mentioned in this regard as a possible inspiration.

Overall, the goal of the new instruments should be to improve the overall resiliency of the European aviation system, not to protect the status quo. General interest activities require continuity. Public intervention, including financial support to service providers, might be necessary to guarantee continuity in service provision in some cases. However, such public financial support should never have as its main goal to ensure the continuity of specific companies or specific business models, for that matter. In short, resiliency instruments should not fight against market trends but reinforce them, also taking into consideration the overall policy objectives such as the green and digital transitions, as well as more traditional objectives such as connectivity and passenger rights.

Main takeaways from the discussion

By Teodora Serafimova, Florence School of Regulation – Transport Area

The COVID-19 pandemic has had a particularly profound and prolonged impact on the aviation sector. The past two years have been marked by a “crisis management” approach to the outbreak across both the aviation industry and policymakers. In as far as no airline or airport has been driven out of business as a direct result of COVID-19, it can be said that the crisis has been managed successfully. This outcome can, to a large extent, be attributed to the European Commission’s [State aid Temporary Framework](#), adopted back in March 2020, which has enabled Member States to use the full flexibility foreseen under the State aid rules to support the aviation industry as it battled with the COVID-19 outbreak.

In addition to State aid, the massive mobilisation effort on the EU policy front, in terms of the adoption of emergency legislation (e.g., temporary derogations on licensing in the [Air Services Regulation](#), slot waivers in the [Slot Regulation](#)) and other common EU initiatives (e.g., vaccination campaigns, the digital COVID-19 certificate), have also played an instrumental role in containing the outbreak and mitigating its impact on the aviation sector. We are now starting to see the first signs of the pandemic receding. In May 2022, a decision was taken to not prolong the Commission’s State aid Temporary Framework, which expired at the end of June 2022. Subsequently, in April 2022, the European Union Aviation Safety Agency (EASA) and European Centre for Disease Prevention and Control (ECDC) published an [update to the health-safety protocol for aviation](#), which foresees the complete relaxation of all COVID-19 related measures, while also concluding that the requirement for wearing masks onboard flights is no longer necessary in the current phase of the pandemic.

Though the COVID-19 crisis may be approaching its end, future crises, whatever shape these may take, are bound to happen again. In view of this, the [18th Florence Air Forum](#) provided a timely platform for reflection on the lessons learnt and areas that could be improved in the European Union’s response to the next crisis. Despite having successfully kept the air industry afloat, there have been imbalances in the way State aid has been distributed and some justified criticisms in the way the crisis has been dealt with altogether. A key priority for EU policymakers will be to better understand the main

structural changes in the sector post-COVID-19. Only afterwards, would it be possible to adequately assess the extent to which there is a need to adapt the EU State aid and regulatory framework in the long term, while bearing in mind the overarching decarbonisation objectives.

What has been the impact of COVID-19? What is the new normal?

The first session of the Forum was dedicated to the presentation of the study commissioned by the European Commission with a view to obtaining up-to-date information and data on the impacts of the COVID-19 pandemic on the aviation sector. In a first part, the study consists in a quantitative and qualitative analysis of the observed and expected market changes up to 2030. In a second part, the study goes on to draw policy findings as regards the [Airport Charges Directive](#), the [Ground Handling Directive](#), the Slots Regulation, including the emergency amendments and the adopted relief measures. With the policy-relevant conclusions of the study yet to be finalised, the session placed greater emphasis on the findings of the first part.

Though one could have expected bankruptcies and a significantly altered post-crisis aviation landscape, this has not materialised in reality, with most airlines, airports and ground handlers having largely remained the same. Despite overall drastic drops in traffic, sharp contrasts were observed across the different segments. One key finding of the study is that the European aviation has not operated as a single market, but as separate domestic markets instead. This, in turn, has been driven by the nationally imposed travel and health-related restrictions, as a result of which cross-border connectivity has been more severely affected than domestic connectivity. The frequency of routes has been hit more strongly than the number of routes operated. There has also been a considerable increase in non-EU carriers. Concerns have been voiced as regards increased competitiveness from external carriers, in particular, from Turkey, the Gulf States and the US, which come in addition to pressures from the future impacts of the legislative proposals under the [Fit for 55 package](#).

Moving to the topic of airport slots, the Commission put in place [emergency Regulation \(EU\) 2021/250](#) in early 2020 as part of its response measures to the outbreak, providing for a waiver and subsequent relief measures from the 80% use rate slot requirement at European airports. The study concludes that the lack of passenger demand directly linked to the pandemic has been responsible for

the overall few changes observed in airline historic slot portfolios. In spite of this “frozen” slot landscape, there has been dynamic use of ad hoc slots at constrained airports. The emergency rules have allowed for greater short-term schedule optimisation and enhanced airlines’ ability to adapt to rapidly changing market demand. Importantly, this has enabled some regional airlines and business aviation carriers to operate slots, to which their access has normally been restricted.

The so-called Justified-Non-Use-of-Slots (JNUS) provisions have proven to be a useful tool to target slot relief to circumstances under which it is really necessary. However, the study also shows that there is room for improvement as the provisions in certain instances led to divergent application across the different Member States.

In some of the largest State aid recapitalisation to airlines, competition remedies in the form of slot transfers have been applied and the results have been mixed. In Orly airport, for instance, the former Air France slots have been immediately taken up and a new base has been set up by a competitor, whereas in Munich and Frankfurt airports, on the other hand, the Lufthansa group remedies have not been taken up, which may reflect the relative availability of slots at each airport pre-pandemic. In sum, all players in the value chain have demonstrated a new level of flexibility and reactivity during the crisis.

As outlined above, generous amounts of State aid have been distributed throughout the EU during the crisis. This aid has come in various forms and with significant disparities across Europe in terms of the amount of aid, the recipient of the aid, the type of aid, among others. It is evident that airlines have received the bulk of the aid. Low cost carriers (LCCs) received significantly less than network carriers, though it is also true that their finances were in better shape in the pre-pandemic period. In many cases, national interests of aid were at the forefront of the support provided. Airports, on the other hand, have had significantly less access to State aid than airlines, though considerably more than ground handlers. Some air navigation service providers (ANSPs) did not receive any State aid, whatsoever. Though there was a shared expectation that some of the State aid would trickle down from one actor to another (i.e., from airlines to the airports, from airlines and airports to the ground handlers, from airports to the retailers and car rentals), stakeholders reported that this has not happened in reality, unless specific preconditions were in place to require such trickling down of aid.

It is important to note that various types of State support have been granted ranging from loan guarantees to loans, grants, and equity injections. As implied, not all types of aid are equal with some requiring repayment with interest. If we look specifically to the airlines that received the highest amounts of aid, it is important to highlight that a significant amount was provided as aid having to be reimbursed and repaid. Against the backdrop of rising interest rates, stakeholders voiced concerns over some carriers being financially handicapped from their obligation to pay back State aid. The core objective of the aid has been to allow airlines to operate and maintain their networks during the pandemic. In view of this, stakeholders cautioned the risk of competitive distortion arising from asymmetric State aid support. Nevertheless, the issuance of a common set of criteria by the Commission for the granting of State aid was welcomed as an important learning lesson for future crises.

In contrast to the limited structural changes in the market, more fundamental changes have been observed in regards to staff and social conditions in the industry. Though aviation as a whole has been severely impacted by the pandemic, the impacts have varied widely from one actor to another, resulting in very different changes experienced by employees across airlines, airports, ground handlers, air traffic management (ATM) and national authorities, among others. These impacts have depended on various factors, including the relationship between the job and the level of traffic, the type of employment contract (i.e., employed or self-employed), the national job protection framework as well as specific measures for employment protection and possible conditions attached to them. The study, moreover, underlines growing concerns over how to ensure sufficient capacity in all sectors to allow for traffic to return to 2019 levels (in particular as regards manual or lower-paid jobs). Another pressing challenge that the European aviation industry will have to confront is that of staff retention and talent attraction.

Looking to the economic impacts, very few airlines have permanently terminated their operations due to COVID-19. Those that did were facing financial difficulties already before the pandemic. This outcome has been possible thanks to State aid support but also provisions laid out in the emergency [Regulation 2020/696](#) about operating licences which helped airlines to continue operations while mitigating impacts on passengers. Since the pandemic, the load-factors of European airlines have remained below break-even levels, i.e., cur-

rently at around 65-70% as compared to ca. 80% before the pandemic.

Competition in the EU airlines market has generally decreased during the pandemic. During the summer season, competition has been at its highest along with increased capacity, though this has been followed by drops in the winter time, driven by more restrictions and stronger reductions in business travel. During COVID-19, passengers have been faced with fewer choices. Airlines have responded to reduced demand by switching to smaller aircraft, reducing their fleets, sometimes retiring old aircraft altogether, but mainly parking and storing aircraft. While in-service fleets have been reduced during the pandemic, airlines have upheld investments into replacing fleets with newer and more fuel-efficient aircraft, in view of aligning themselves with the Fit for 55 package. In fact, the manufacturing industry has estimated that by 2030, airlines will have to invest ca. €140-179 billion in their aircraft to achieve EU decarbonisation objectives.

In terms of resilience and viability, returning air travel demand was found to be particularly problematic for the airlines, which reduced their fleet size during the pandemic, likely causing them to face more difficulties in resuming their offers of the same level of routes and frequencies as in the pre-pandemic period. The crisis has led to a significant decline in passengers revenue in 2020 and 2021, which in turn, has reduced a number of variable costs linked to flying. Airlines have implemented cost-cutting measures in regards to employment by means of wage support schemes and redundancies. Airlines have also reduced their capital expenditures by focusing solely on projects deemed as critical. In addition, airlines have reduced their current liabilities so as to better manage their liquidity. Airlines have also reduced their operating costs and increased the cash they held. Once again, great variations have been observed across airlines depending on their strategies and precise circumstances. The falling airline revenues and the lowered prospects of a quick recovery has affected airlines' credit ratings, making them less attractive to lenders, thereby also weakening their borrowing capabilities.

Airports, too, have been strongly impacted by the pandemic. This impact has varied depending on the market, seasonality, the combination of carriers operating on them, the underlying geography and the regulatory framework. As a consequence of traffic decline, a number of airports were faced with liquidity issues. In view of this, airports have also resorted to measures aimed at cutting their operat-

ing costs. These have included the closing down of infrastructure, the reduction of employment costs, and negotiations with suppliers. Some costs, of course, were naturally reduced as a direct result of the traffic drops. In the case of France, for example, intermediate-sized airports (i.e., those with 8 to 14 million passengers) were better able to close infrastructure with domino effects on the associated costs, and thus, fared better financially. Smaller airports, on the other hand, were not able to do this to the same extent.

In an attempt to preserve passenger and cargo revenues, airports have launched airport charges reduction programmes to compete for the scarce traffic that remained. A large majority of EU airports froze their airport charges in 2020 and 2021, while others offered new incentives such as re-start support and free parking, among others. The report finds that some of the larger airports were able to cover roughly 20% of the revenue losses through cost-cutting measures, while other smaller airports were able to reach around a third of losses recovery. Some airports have been able to accelerate capacity and runway maintenance investments due to lower traffic volumes, whereas others have frozen such activities. Overall, airports have reported significant losses in 2020, though the picture is varied across the different airport groups. Some airports have rebounded and returned to profitability, whereas others continue reporting a loss for 2021, albeit to a lesser extent than during 2020.

When it comes to the outlook to 2030, airports are focused on revenue generation, both aeronautical and non-aeronautical. As regards aeronautical revenues, a key issue for airports has been airport charges cost recovery. In some Member States, regulatory frameworks do not allow for the recovery of unrecovered costs from previous years. The French application of the [Airport Charges Directive](#), for instance, foresees that any increase in the charges must be moderate (which in turn does not allow for the recovery of losses). If approached purely from a competition law perspective, a steep price increase is not necessarily an economic abuse if justified (e.g., if the increase is related to the underlying costs). Whereas the issue of charges has historically been a divisive one, it appears that the pandemic has further entrenched stakeholder views on the topic. On the non-aeronautical side, the key issues for airports have been the rise in inflation and lower demand. Unregulated charges are expected to increase at a higher pace than regulated charges. The higher cost of financing and higher debt levels especially for smaller airports remain concerns.

Lastly, zooming into the ground handling sector, few changes have been reported in terms of bankruptcies and market exits (with only a couple of exceptions). The level of competition has remained more or less unchanged. As a particularly labor-intensive sector, staff has been the adjustable variable in the ground handling industry, and costs of ground handling appear to have increased in general. There have been liquidity concerns given that ground handling is a sector, which is paid on a 90-day basis by airlines. Here once again, the ground handlers that fared the best during the crisis were those with accumulated cash reserves. When it comes to the sector's outlook to 2030, the report predicts a consolidation in the ground handling market, but also rising concerns about the industry's ability to invest in the necessary technologies to align with the European Green Deal objectives, while retaining staff.

Overall, the aviation industry will likely have to once again confront capacity bottlenecks similar to the ones that characterised the pre-pandemic period. When assessing the impacts of the crisis, stakeholders urged the need to not only consider the economic and financial implications, but also the broader long-term aviation policy objectives in terms of sustainability and capacity constraints. Participants welcomed further analyses and learnings from other comparable past experiences, such as the US airline industry's heavy indebtedness in the 80s and 90s, and the financial sector crisis of 2008. What is more, the need for a better understanding of the level of debt and its implications for future investment across the rest of the aviation sector was also called for. Participants agreed on the need for deeper knowledge on the intensity of competition on a route-by-route basis, a topic which goes beyond the scope of the study. This complex topic relates to the question of operating costs and the precise routes airlines decide to allocate their fleets on. Such decisions could be further influenced by the Fit for 55 package, including the possible different impacts on intra-EU and EU to non-EU routes.

Lessons learnt from the COVID-19 crisis response: What went well and what needs improvement?

Drawing on the specific experience of Paris airports during the COVID-19 crisis, stakeholders confirmed that traffic recovery is likely going to continue being seasonal in nature (i.e., with a peak in summer months) from now until 2024. In view of this, despite seasonal fluctuations and traffic for the year of 2022 remaining at around 75% of 2019 levels, capacity bottlenecks in the summer of 2022 are likely to

resume. This will have implications for staff and facilities, which will have to be constantly adapted to accommodate variable traffic flows. The uncertainties brought about by the pandemic add a layer of complexity for traffic forecasting, which is a key element for the calculation of the level of airport charges.

It emerged clearly from the discussions that loss recovery and risk sharing are two interdependent questions. Currently a different set of risk sharing rules are applied across the different aviation groups, namely, airlines, airports and ATM. In ATM, for instance, we have state-owned monopolies, which are fully regulated, and thus have no incentive to be scaled or reduce costs. Existing rules guarantee ATM compensation for losses incurred, with a small risk proportion of 5-6%. Airlines, on the other extreme, have no guarantees for loss compensation, whatsoever. In between are airports, as regulated infrastructures, with varied national transpositions of the EU legislation. As a result, we observe 99% of nationally set rules at European airports. In Germany, for instance, where there is no price-setting regulator with economic oversight, airports' ability to recover losses has come down to market power. Participants, therefore, urged the need for uniform rules on risk sharing across Member States to avoid distorting competition across airports, creating unpredictability, and leading to an outcome, where the tax payer pays for the losses of an airport. Risk sharing, however, needs to be partial only, given that full risk sharing and losses compensation should only be aimed at sectors, which cannot influence their own demand, such as ATM.

Airport stakeholders argued that the economic regulatory framework provided by the [EU Airport Charges Directive 2009/12/EC](#), had proven its flexibility and functionality throughout the pandemic, and thus did not need to be revised. Some of the examples used to illustrate this point included the temporary cancellation of aircraft parking fees (from April to October) giving flexibility to airport operators in coping with the crisis, and the capacity to further modulate landing fees in 2020 based on environmental criteria, such as aircraft noise levels. Another positive element highlighted from the experience of Paris' airports, has been the capacity to adapt facilities and infrastructure in accordance with traffic flows (e.g., Orly airport was completely closed for three months in 2020). Another positive aspect has been the flexibility of infrastructure, allowing airport operators room for maneuver when it comes to airlines assignment, and the possibil-

ity of mixing international and Schengen terminal traffic.

While some stakeholders were generally satisfied with the Airport Charges Directive as it currently stands, it also became clear in the discussions that its transposition into national regimes has varied and created problems in some Member States. On this note, and moving on to the areas needing improvement, stakeholders highlighted the importance of enhancing airports capacity to restore their financial health. This capacity, it was noted, depends to an extent on the ability of airports to recover costs through future airport charges, which, in turn, is determined by national laws. Four main elements are to be taken into account when calculating airport charges, namely future cost development; regulatory asset base development and cost of capital; the development of air traffic and transport; and post-COVID-19 financial losses. In some countries, national provisions set an upper limit on the increase of airport charges to ensure they remain moderate (e.g., only up to 3-4% in France) however, no limit is placed on the reduction of charges. This so-called asymmetrical moderation principle limits airports' capacity to increase charges, which some participants argued hampers their overall ability to restore their financial health and to make necessary investments to accommodate new traffic. In view of this, stakeholders stressed the need for a more balanced risk sharing mechanism between airlines and airports, to avoid situations where airports act as an "insurance company" for airlines as a result of the asymmetric moderation of airport charges.

Subsequently, discussions drew attention to the recommendations of the Thessaloniki Forum of the Airport Charges Directive, which were drafted for airports with significant market power in mind. As a general principle, it was underlined that economic regulation should aim to provide the right incentives for efficient operation while allowing a reasonable rate on return on invested capital. In other words, standard economic regulatory practices should seek to mimic the outcome of competitive markets. Given that economic regulation has been designed for normal economic cycles, where losses and gains cancel out over the medium term, stakeholders questioned whether disruptive crises, such as COVID-19, are adequately accounted for in the current legislation. Airports, argued that as a balanced approach in exceptional circumstances like COVID-19, loss compensation may be considered, whilst maintaining incentives that stimulate efficiency.

There are two main recommendations stemming from the Thessaloniki forum's report as regards losses and the passing through of losses. First, careful consideration is to be paid to the financial losses that are eligible for potential compensation by means of higher airport charges. Here it is to be examined whether losses could have been avoided (e.g., some depreciation costs), taking into account realised (net) cost savings. It should also be investigated whether the financial losses resulting from the crisis would have an unacceptable negative impact on the long-term financial viability of the airport, taking into account shareholder responsibility. As regards the passing through of financial losses via airport charges, whenever loss compensation is allowed, demand-side risk can only be partially passed on to users. Any cost-recovery or turn-over-recovery mechanism should take into account its impact on traffic recovery (5 to 7 years recovery period). A partial loss compensation instead of intruding specific risk premiums on the standard regulatory weighted average cost of capital (WACC) could be introduced to compensate investors for the risk of a black swan (e.g., COVID-19) event.

When it comes to airport slots, on other hand, the slot waiver adopted at the start of the pandemic was warmly welcomed as a necessary measure. Subsequently, however, it was reported that some of the carriers with higher traffic growth had experienced difficulties in obtaining sufficient slots, despite the emergency rules being in place. Moreover, some participants pointed out the difficulties faced by some airlines in modifying schedules and adapting to seasonal changes.

As already highlighted in the previous section, airports have tended not to be the largest beneficiaries of State aid (compared e.g., to airlines). In view of this, despite recognising the limits to EU competences in determining the allocation of State aid, some stakeholders welcomed the idea of enhanced State aid flows to airports to keep the aviation ecosystem afloat and in this way, allowing airlines and other players to benefit alike. What is more, non-distortive types of aid, such as employment support schemes, were welcomed as potential remedial measures to support connectivity.

More generally, some participants called for common EU rules based on EU objectives linked to connectivity, consumer protection and sustainability, so as to guarantee that any company, regardless of where it is based or operates, could be a beneficiary of State aid. Such common EU rules or guidelines would also be central to avoiding fragmented national approaches to travel restric-

tions, which have had severe impacts on the travel industry. Here, the coherent implementation of the Commission's recent [Contingency Plan for Transport](#) was underlined as an important step in the right direction. While its implementation lays in the hands of the Member States, participants generally welcomed a shift of competences from the national level onto the EU level to avoid repeating the same mistakes during future crises.

Analogies were drawn to the banking industry, where after the financial crisis of 2008, deep reforms were introduced, pertaining to capital, oversight, and reporting requirements. Forum participants highlighted the consideration that “cascade effects” through the aviation value chain may have played a role in the allocation of State aid to the aviation sector during the pandemic, so as to amplify the benefits across the entire value chain. What is more, the particular importance of certain airlines for public policy objectives such as connectivity has been another factor, used to justify the granting of State aid. The aftermath of the financial crisis saw measures aimed at rendering banks more resilient to future crises, such as the building up of capital reserves. In the COVID-19 crisis, we have seen that airlines who fared the best were the ones with financial buffers, rather than those who received the most aid. Participants agreed that preventive measures can be inspired from the banking sector, where stronger prudential behavior has shown to be valued by investors. Some went further to support the idea of establishing a centralised regulatory entity entrusted with the oversight of the financial state of airlines.

Over several decades there has been a strong focus on de-regulation, liberalisation, and privatisation, all of which engender a degree of autonomy on the part of airports, airlines and all other actors in the aviation ecosystem. Investment (e.g., into replacing aircraft fleets and greening airports) will be crucial to retaining this degree of autonomy within the industry, and mitigating the risk of returning to state regulation. In conclusion, stakeholders were in agreement that we are faced with a unique opportunity to revise some of the existing pieces of EU legislation governing the aviation sector, with a view of ensuring that future crisis situations, be these pandemics or wars, are inbuilt into them.

Towards a more resilient air sector: Updating the regulatory framework for the new normal and improving the resilience of the sector

In response to the COVID-19 outbreak, the EU adopted emergency legislation to amend the Air Services Regulation, where temporary derogations on licensing were granted, as well as its Slot Regulation, where airlines were granted waivers from slot use rate requirements. Moving forward, participants reiterated the need to ensure crisis-proof policies and regulations, while also addressing problems that pre-date COVID-19. Therefore, decarbonisation, digitalisation and connectivity were stressed as guiding principles to be embedded in future legislation. Independent regulators, on the other hand, should be provided with flexibility and a proper regulatory framework to act upon. Stakeholders were aligned over the need to ensure that airport infrastructure-related investments are backed by a robust assessments and cost-benefit analyses, to understand their real impact on CO₂ emissions and ensure these are conducive to the European Green Deal objectives.

Participants agreed that where prices are regulated, an adequate and consistent return on investment is critical to maintaining reliable and efficient development of transport (and energy) systems. For decades, EU regulators have devoted considerable efforts to ensure that returns are not excessive but still sufficient to attract capital. As underlined previously, airports remain reliant on capital markets and according to some stakeholders, the Airport Charges Directive had delivered encouraging results on that front. Today in the air sector setting the ‘fair rate of return’, a historically delicate balance between the interests of customers and investors, appears an increasingly challenging task as the industry confronts technological innovation, heightened competition, dramatically shifting commodity market conditions and an evolving regulatory framework.

The “asymmetric risk” of regulated businesses, once again, formed a key topic of debate in this session. Airport stakeholders stressed the limitations of weighted average cost of capital (WACC) calculations during prolonged periods of adverse events, as the downside risk is unlimited but there are no scenarios under which the business can recoup a similar upside benefit, as if a shock positive event occurs, the regulator would always claw back excess return. This asymmetry may deter investors, if there is a real risk that returns may not materialise; at the very least, investors may demand

a higher return given the risk. Stakeholders highlighted that airports and airlines appeal to two different investor mindsets, with investors in airports generally looking for a lower risk profile from their investment.

Airline stakeholders, on the other hand, argued that the Airport Charges Directive has largely failed to achieve its initial objective of controlling monopolistic situations at airports, and is thus, in need of revision. The transposition of the Directive has resulted in divergent rules across Member States and some fragmentation of approaches within the single market. The crisis has, moreover, exposed the significant divergences among national regulators' powers. In recognition of the divergent national transpositions, airport representatives were favorable to focusing on the identification of shortfalls and addressing these by means of guidelines aimed at ensuring a better implementation of existing regulations. One further solution mentioned was to transform the Directive into a Regulation, which would make it directly applicable and remove much of the possibility for divergence between Member States. Stakeholders broadly welcomed the possibility of tackling additional elements in the context of the Airport Charges Directive's review, including a mechanism for risk sharing. As in the previous section, risk sharing was acknowledged as a cure for the past years' wounds but also as a broader theme for financial discipline.

When the pandemic first broke out, many airlines had limited amounts of cash reserves, enough for a few weeks or months only. Some were, in fact, using cash flow from tickets for air services not yet rendered as their main source of cash. In other words, passengers became involuntary lenders to the airline industry. It took around two years for the reimbursement of tickets to be fully enforced, instead of the vouchers which airlines pushed onto consumers. European airlines are estimated to have incurred ca. an extra €50 billion of debt, which is equivalent to ca. 1 000 short haul aircraft. This comes in addition to ongoing struggles of the sector to retain staff with transferrable skills (e.g., finance departments) and attract new talent. Accumulated debt limits carriers' ability to invest, while price competition limits their ability to recoup losses through fare increases.

Drawing on this, stakeholders emphasised the need to pursue ATM modernisation and efficient airspace use, which stands to deliver important fuel (and CO₂ emission) savings, allowing airlines to divert more resources to paying down their debt. To illustrate, it was noted that achieving 50% of poten-

tial airspace efficiency savings could enable some carriers to save on jet fuel alone a sum equivalent to the debt accumulated during the crisis. Delivering on these efficiency gains from ATM was stressed as an important precondition to enabling the sector to recover both in terms of cash generation and ability to make the necessary investments in line with European Green Deal objectives. The building up of capital buffers was recognised as another key precondition to boosting resilience.

On the topic of State aid, participants argued that its primary purpose should be to maintain connectivity, compensate unexpected losses and support airlines and airports in returning to their normal footing. Some participants argued that support for commercially non-viable airports would be necessary to guarantee basic connectivity to regional and remote airports. Other participants argued that airports may need to try to influence the quality of their connectivity, and in their view regulators should thus be enabled to determine the kind of routes and destinations to be prioritised taking into account citizens' needs. Since capacity will likely become scarcer over time, such choices will likely become more acute in future.

Stakeholders broadly agreed that valuable learnings can be drawn from the energy sector, where the European Union Agency for the Cooperation of Energy Regulators (ACER), has been granted a strong mandate to develop common approaches and set common rules. Of particular interest were the Agency's powers in the sphere of capacity manipulation oversight, i.e., monitoring of energy companies' declarations as regards how much capacity they hold. Here, analogies were drawn to airport slot hoarding among airlines, where the lack of transparency in the capacity reporting process risks abuse and the distortion of competition. In the energy sector, jointly with national regulators ACER has the powers to intervene and, where needed, impose fines on market players. Some participants were favorable to a similar solution for aviation, where a common regulator would intervene to impose sanctions for slot abuse and capacity hoarding, so as to avoid airlines abusing a dominant position at an airport, and encourage new entrants and the use of unused slots. The Thessaloniki Forum was referred to as a proto version of ACER, which could be further developed for the aviation sector.

Towards a more sustainable and greener air sector: Impact on the competitiveness of EU airports and airlines and international competition consideration

In its [Fit for 55 Package](#) the Commission puts forward three individual proposals, which will significantly impact the aviation sector, including the proposals for a kerosene tax via the [revision of the Energy Taxation Directive](#), a strengthening the [EU Emission Trading System \(ETS\)](#) and the [ReFuelEU Aviation](#), which seeks to boost the production and uptake of sustainable aviation fuels (SAFs) in the EU.

The Fit for 55 Package was welcomed as a crucial landmark step to reach Europe's 2050 climate neutrality objectives by internalising the external costs of aviation, kick-starting the SAF market and thereby breaking the sector's 100% reliance on fossil fuels. Some stakeholders criticised the fact that the European Commission's [Impact Assessment on the ReFuelEU Aviation initiative](#), mainly examines the European internal market (i.e., impacts on the intra-EU connectivity and competitiveness), but omits extra-EU aspects and competition. Those participants argued that the different rules for EU and non-EU airports could damage the competitive position of EU carriers and of EU hubs on international routes.

Stakeholders cautioned that if the cost of intra-EU flying becomes higher as a result of EU-only environmental rules, passengers may divert to hubs outside of Europe (e.g., Istanbul, Qatar, etc.). This risks undermining part of the CO₂ emission savings achieved throughout the Fit for 55 proposals. A growing body of evidence was quoted demonstrating the cumulative impacts in terms of competitiveness and carbon leakage risks. In particular, the assessment by SEO & NLR (2022) on the impacts of the Fit for 55 Package have shown an overall reduction in emissions, which, however, would be partially offset by an increase in emissions arising from indirect routings with higher CO₂ emissions and flying via non-EU hubs. The competitive distortion and carbon leakage would be particularly significant in the long-haul markets. This will negatively affect EU direct connectivity and could lead to additional indirect routings, with higher CO₂ emissions per passenger. Overall, the report estimates a total carbon leakage from all long-haul markets by 2030 amounting to 14.5%.

When we look to other industries, such as steel and aluminum, which also operate at a global level, and are thus exposed to the risk of carbon leakage, the

phase out of free allowances in the ETS has been accompanied by support measures, notably the [Carbon Border Adjustment Mechanism \(CBAM\)](#). Against the backdrop of an extremely competitive global landscape, forum stakeholders cautioned that the phase-out of free allowances in aviation would be harmful without a similar mitigation mechanism. In view of this, discussions echoed the need to strengthen the package, by adding accompanying measures to mitigate the competitive disadvantage risks outlined above.

First, participants agreed on the need to monitor and quantify carbon leakage and competitive distortion over time, and to better understand which groups are most exposed, so as to be able to mitigate the negative impacts over time. Some underlined that a degree of carbon leakage may be inevitable and should thus be accepted, so the priority should be on minimising the leakage. One possible solution would be to include air transport in the CBAM Regulation. Whereas transport is, indeed, mentioned in the CBAM Regulation, since transport is not a “good”, but rather a “service”, it does not fall within the remit of the World Trade Organisation (WTO). A possible CBAM-like solution would, thus, require a degree of creativity and the next three years offer a unique opportunity for policymakers and industry players to prepare the ground for it.

Participants noted that the adoption of similar greening measures by third countries could help to partially offset the negative impacts. The ability to do so will, of course, depend on international mechanisms, and could be promoted through Air Services Agreements (ASAs). Some participants were favorable to the idea of adopting a common ASAs policy and market access approach. However, discussions also recognised that the introduction of environmental conditions in ASAs would be an extremely high risk approach. Participants agreed that it would require consensus from all Member States, and that the design of such ASAs should be careful to avoid the possibility of retaliation from third countries.

Despite their enormous potential, SAF penetration rates stand at around 0.01% of global fuel usage today. This can be attributed to the fact that SAF prices are roughly 3 to 5 times higher than those of conventional fossil jet fuel. Some participants urged the need to recognise that SAF cost projections are not “written down in stone”, however. To illustrate this point, reference was made to other sectors, where the International Energy Agency (IEA), for instance, has repeatedly reviewed (downwards) its

cost estimates for clean technology deployment, such as renewables and batteries.

The industry has already demonstrated its commitment to achieving net zero carbon emissions, including through its [Destination 2050 Roadmap](#), and recognises the need for SAF mandates in order to scale up fuels, such as e-kerosene. The mentality shift observed within the aviation industry has been helped by regulators, NGO positions and generational changes. Going forward, stakeholders were aligned in calling on the EU to enable a competitive market for SAF production and stop any monopolistic behavior. The SAF market should be a dynamic and competitive one, which brings the cost down over time. In order for SAF costs to come down significantly, stakeholders agreed that it was necessary for a number of companies who are equally disruptive (“the Ryanair of SAFs”) to enter the market. This will also be equally important in terms of addressing airlines’ fears over having to rely solely on a single SAF producer in a single country. In addition, participants noted that uptake of SAF could be improved if it were subsidised. One way to finance the cost differential between SAF and conventional kerosene would be to use EU ETS revenues.

The Forum also zoomed in on regional aviation, which has a different business model primarily focusing on maintaining connectivity for a small group of regional segments. The regional air segment continued its operations during the crisis. In fact, the discussions revealed that COVID-19 has enabled the growth of some regional carriers, largely thanks to the market slowing down and slots becoming available. PSO routes have also been important for ensuring regional connectivity in remote regions.

Regional airlines also face strategic decisions about investment in fuel-efficient aircraft and state-of-the-art technologies. Some have created partnerships with big and small carriers alike, to expand their market share and grow significantly during the crisis. Having said that, challenges remain, in particular in relation to the ability to retain staff, as well as attract new talent. This has been particularly problematic in the smaller islands, including where there are social housing constraints.

Due to the limitations of physically transporting SAFs to some remote airports (e.g., islands), a virtual Book & Claim model for SAFs has been implemented in some cases. Whereas stakeholders were generally open to the idea of a Book & Claim system for SAFs as a transitional measure, they stressed the need to ensure the system is support-

ive of a diverse market with a high degree of environmental integrity. As an illustrative example of a design that should be avoided for the Book & Claim in aviation, participants brought up the example of the [Clean Development Mechanism \(CDM\)](#), set up under the United Nations Framework Convention on Climate Change (UNFCCC), which issued offsetting credits and supported huge industrial projects with no environmental integrity, thereby leading to a price crash.

COVID-19 has reinforced the importance of cutting emissions and fuel consumption as a means to reduce fixed operating costs for airlines. Here once again, the need for ATM modernisation was reiterated to ensure more efficient flight routings. Whereas over the years the aviation industry has achieved important progress in terms of fuel efficiency, these gains have been outweighed by growth in air traffic.

Lastly, participants agreed that State aid risks unleveling the playing field and distorting competition in the market, which is counterproductive in terms of financing decarbonisation. In view of this, they stressed that the solution lies in the design and coherence among all aviation legislation to ensure the right incentives and a level playing field for all aviation players, from airlines, airports, ATM and ground handlers.

Conclusion

Despite the immense shock of the pandemic, the structure of the aviation sector as a whole has not changed dramatically. Similarly, the sector's commitment to decarbonisation remains and is intensifying. SAFs were acknowledged as one of the most promising solutions to achieve significant emission reductions in the coming decades, however cost (and its implications for competitiveness) remains a concern. There is a need for closer cooperation with external markets with a view to moving them in the direction of the EU's Fit for 55 Package. Decarbonisation is made more complicated by the higher debt levels of aviation players, which has hampered their ability to invest in clean technologies, digitalisation, and fleet renewals, among others.

Consolidation is expected in the aviation sector as a result of the more fragile financial situation for some players. This may offer an opportunity for efficiency gains, and may lead to a rebalancing of the playing field. Here, it is important to look beyond the mere number of players operating in the EU, but also consider the shape of competition, the geographic distribution of the players, and other elements. The expected trend towards consolidation will also have to be approached carefully in terms of the impacts on individual routes. The management of the crisis has identified issues of moral hazard that need to be addressed in the medium-term.

The indebtedness of different market players has also led to discussions about risk sharing. While there is a need for public intervention to manage risks, what we observe in aviation is that a mere reliance on Member State intervention falls short of producing optimal results. Financial buffers were clearly identified as a way to improve aviation players' resilience to future crises while making national interventions less necessary and less distortive. The need to more coherently link EU funding (e.g., Next Generation) with overall EU transport policy objectives (decarbonisation, digitalisation, and the Single European Market) was also stressed, while the experience of the energy sector where national regulators have come together in a network structure, was welcomed as a possible model to inspire solutions for aviation.

In view of the tensions exposed between the national and European dimensions during the pandemic, discussions echoed the need to adapt frameworks to allow for a more harmonised and swifter response among Member States (e.g., travel restrictions, health measures). Similar arguments were made for the distribution of State aid. Finally, participants agreed on the need for stronger enforcement of existing legislation.

Charting a sustainable flight path for the EU aviation sector

A Comment by Prof. dr. Steven Truxal, Professor of Air and Space Law, Leiden University, Director, International Institute of Air and Space Law

The COVID-19 pandemic has truly put the economic resilience of the global aviation industry to the test. As the European Union (EU) aviation sector learns lessons from the crisis and looks to the future, its focus must be to build its economic and environmental sustainability. The two aspects are inextricably linked and are challenged by the realities of competition within the EU and internationally.

For the EU aviation sector to achieve economic and environmental sustainability, three areas must be addressed: 1) to meet the needs of required investment; 2) to improve the system of airport slot allocation; and 3) to create a level playing field.

Firstly and most crucially for its successful future, the EU aviation sector will require an incredible amount of investment to achieve sustainability objectives. Fleet renewals, including greener aircraft, development of sustainable aviation fuel (SAF) and improving airport infrastructure are costly actions. As an alternative, carriers may raise airfares and air cargo tariffs to meet the costs, though that would be unpopular with passengers and shippers and would impact earnings.

In the face of the sector's widespread losses during the crisis, private investors may be wary unless the sector generates opportunities for more attractive, green investments. The archaic nationality-based ownership and control rules, which have been promulgated in restrictive bilateral Air Services Agreements (ASAs), constrain prospective foreign investment, market access and liberalisation generally.

State intervention in the market, which had a more limited scope before the crisis, will be possible for certain categories of public investment under the new [Guidelines on State aid for Climate, Energy and Environmental Protection \(CEEAG\)](#). The question is will Member States offer aid to aviation stakeholders so as to meet their obligations under the [European Climate Law \(Regulation 2021/1119\)](#), and if so, on what conditions. Required investments in SAF and obligations on fuel suppliers will be driven by the proposed [RefuelEU Aviation Initiative](#).

We have seen radical things happen during the present crisis. Member States, such as France and

Austria, have required airlines to give environmental commitments in exchange for State aid. Such conditionality can be traced to an emerging political will to utilise public investment to drive forward the green transition.

The EU aviation sector's overall attractiveness to investors and customers may ultimately hinge on a future change to the structure of the market. The crisis has revealed the vulnerability of the current system of pre-paid tickets issued in exchange for a future obligation to perform air services, also in light of the [EU Air Passenger Rights Regulation](#).

Secondly, the system for allocation of airport slots at Europe's most congested airports must be improved. The [EU Airport Slot Allocation Regulation \(SAR\)](#) was designed in a different era when 'new' slots would be added to the slot pool; now steps are being taken to reduce the number of aircraft movements in the EU. While the current system is flexible at times, as in the current crisis, the hard reality is that despite airport expansions and improvements to existing infrastructure, there remain serious capacity constraints at EU airports, most recently also labour shortages. A proposed recast of the SAR has been blocked in the Council for a decade.

Meanwhile, the existing allocation system is not working. For example, the Dutch slots coordinator, ACNL, had adopted a new [Policy Rule](#) that prescribed a list of priority destinations for slot allocations at Amsterdam Schiphol, Eindhoven and Rotterdam-The Hague airports. The International Air Transport Association (IATA) then brought a legal challenge to the Policy Rule and was successful. Although ACNL is for now prohibited from applying the Policy Rule, the experience shows that the waters are being tested, in this case through an intervention in slot allocations by way of additional criteria.

The experience of slot trading on the secondary market at London Heathrow and Gatwick airports seems to suggest that slot trading drives airline consolidation; the big get bigger. If further airline consolidation in the EU is undesirable, in the interests of promoting competition among airlines and reducing flag carrier dominance at hubs, then the legalisation of secondary trading of airport slots in the EU should be reviewed.

Any future SAR or alternative form of addressing airport slots must reflect the EU's green objectives. There is an opportunity — at EU level — by imposing

regulatory restrictions, or ‘caps’ on slot holdings, to limit or reduce the dominance of flag carriers at the EU’s most congested airports. This would create new opportunities for competition while aligning the use and optimisation of airport capacity with the [European Green Deal](#).

Thirdly, the future of creating a ‘level playing field’ has grown in scope to include not only ‘fair competition’ but also sustainability.

Within the EU, the levels of temporary State aid provided in the COVID-19 crisis to support airlines, airports and ground handlers have varied across the Member States, raising questions about the European level playing field. The [Temporary Framework](#) expired on 30 June 2022; it will not be renewed. With other crises affecting EU aviation – the Russia-Ukraine War, staff shortages across all industry stakeholders – will additional financial support soon be needed?

Internationally, the work that started before the COVID-19 pandemic on targeting foreign subsidies will continue, which may make the EU vulnerable in overseas markets and lead to tensions in international trade. For the EU aviation sector, there is valid concern that air passengers and cargo may be diverted to hubs outside the EU, owing to the EU Emissions Trading Scheme and its proposed component, the Carbon Border Adjustment Mechanism, alongside the planned staggered SAF blending mandate under RefuelEU.

In July 2022, the International Civil Aviation Organization (ICAO) convened a high-level meeting on the feasibility of a long-term aspirational goal for international aviation CO₂ emissions reductions, which was adopted at the triennial ICAO Assembly held in September and October 2022, when all eyes were on Montréal. Will multilateralism deliver continued support for the global [Carbon Offsetting and Reduction Scheme for International Aviation](#) (CORSIA)? And will EU ETS and CORSIA be linked, and if so, how? European carriers stand to be disadvantaged if a workable solution is not found. Could bilateralism, by way of ASAs, be an alternative tool for achieving commonality for greener aviation? While these are not new questions, arguably they have never been more pertinent.

Should airports' financial losses resulting from COVID-19 be recovered by increasing airport charges?

A comment by Ernst-Jan Heuten¹

Many airports have suffered considerable financial losses in the aeronautical segment during the COVID-19 crisis. Transferring these losses could result in a sudden and substantial increase in airport charges. Should these losses be recovered by increasing airport charges?

In January 2022, the Thessaloniki Forum of airport-charge regulators adopted a paper that provided recommendations on this for airport charge regulators.² The recommendations are predominantly based on standard regulatory economic principles and the instruments that may be available in a regulator's toolbox. In practice, the regulatory approach to airport charges and the instruments available depends on the relevant provisions in the national laws of individual EU member states, which may differ from the options mentioned in this article or the paper.

These recommendations are as follows. The financial losses resulting from the pandemic are a demand-side risk. Shareholders of price-regulated undertakings receive a risk compensation for their price-regulated activities in the form of a regulatory WACC. For this reason, it is, in principle, appropriate to transfer the demand-side risk to the shareholders. Demand-side risk should, by default not be transferred to users by increasing charges.

It can be argued that economic regulation was only designed for normal economic cycles in which the economic profits and losses broadly cancel each other out over the medium term. Events such as the COVID-19 pandemic cause disruptive financial losses in the airport sector and would therefore not be part of a normal business cycle.³ Insofar economic regulation does not compensate for this

in exceptional circumstances like these, transferring airport losses to airlines may, from a regulatory point of view, be considered.⁴ By considering such a transfer, guidelines should be used that are as close as possible to the regulatory economic principal premise of maintaining general economic incentives that stimulate efficient operation. The Forum elaborates on this further in the form of two types of recommendations:

Recommendations to determine what losses are potentially eligible for compensation by increasing charges:

The financial losses that have been reported by the airport may be unnecessarily high. Regulators may take into account the fact that some costs have been saved or could have been avoided by the airport. In addition, government financial aid could be taken into account before considering transferring costs to customers by increasing airport charges.

For example, individual tangible fixed assets may, technically speaking, be indivisible, yet economically speaking, they are not. In exceptional situations such as COVID-19, where the annual activity level has dropped dramatically, depreciation costs of these assets could be treated as a per-unit cost instead of depreciating by, for example, a fixed amount independent of its actual use over a certain period of time. The allocation of the regulatory depreciation costs in the charges could also be postponed.⁵ Both of the aforementioned solutions still, in principle, allow airports to recoup their investment costs in the long term.

Recommendations on the passing on of financial losses via airport charges:

If loss compensation is considered, regulators could assess whether the determined financial losses as a result of the crisis would have an unacceptable negative impact on the airport's financial sustainability (long-term or otherwise), taking into account shareholders' responsibility.

1 Ernst-Jan Heuten is an economist, working for the Office of the Chief Economist of the Netherlands Authority for Consumers and Markets (ACM). In 2021 he chaired the Thessaloniki Forum expert group on airport charges. He wrote this article in a personal capacity. This article cannot be interpreted as a judgment in specific cases.

2 See: Thessaloniki Forum on airport charges: *Airport charges in times of crisis*, adopted January 27th 2022.

3 For these insights, see also the Brattle Group, *risk and return for regulated industries*, Elsevier Academic press, 2017, page 227.

4 In some specific regulatory regimes, on the basis of the regulatory-design premises, the regulated undertaking bears no demand-side risk. In these systems, revenue-cap regulation is applied, where an allowed revenue is determined. These systems are not discussed in this article or the Forum's paper.

5 For these kinds of solutions, see also Frontier Economics: *A regulatory flight-path to airport recovery*, page 5, Oxera: *Post-COVID airport regulation: a clear path?*, March 2021 page 1."

Whenever loss compensation is allowed, demand-side risk can only be partially passed on to users. This is to ensure that the airport continues to look for opportunities to save costs as much as possible. Not being allowed to pass on all losses will further incentivise airports and their shareholders to prioritise investments. In addition, the pandemic causes extra uncertainty about the future and partial passing on stimulates airports to be cautious about starting new investment projects.

Any cost-recovery or turnover-recovery mechanism should take into account its impact on traffic recovery. For that reason, the Forum recommends spreading the recovery over a certain period of time (5 to 7 years). Such a time period could depend on the financial amounts to be recovered.

Risk may be shared via the settlement of turnovers. In exceptional circumstances, any negative and positive differences in turnover above and below a certain threshold as a result of differences between projected and actual traffic volume may be shared between airports and airlines. By applying a certain threshold, a part of the risk remains with the airport, which encourages the airport to take measures to mitigate the negative financial effects of a crisis.

Are the Forum's recommendations on this also useful if the crisis takes on a more permanent dimension? At the time of writing this article, it is uncertain how long the pandemic will last or to what extent it may return. It cannot even be ruled out that the crisis may lead to a long-lasting and more structural decline in demand for aviation services. If more permanent scenarios were to become a reality, some of the assets may have to be removed from the asset base dedicated to their original activities or a one-time depreciation of the book value, and a corresponding reduction of the remaining yearly depreciation cost could have to be made.

FSR Transport

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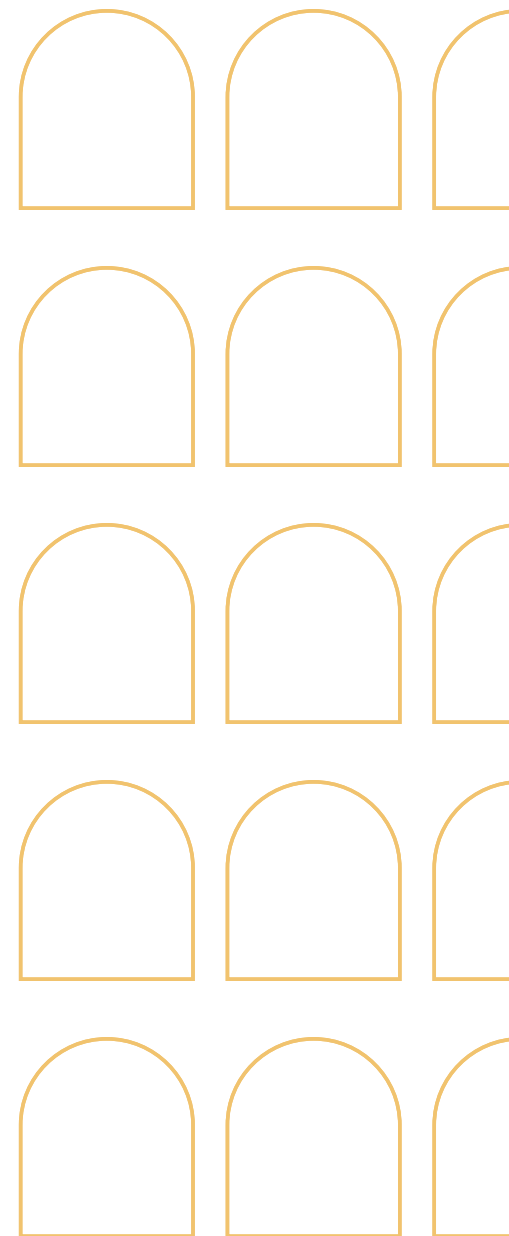
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