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## EUROPEAN TRANSPORT REGULATION OBSERVER

### *Navigating Towards a More Efficient Airport Slots Allocation Regime in Europe*

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#### Highlights

The aviation sector has experienced continued growth over the past years, which has significantly enhanced connectivity within Europe, and translated into important socio-economic benefits. To put things into perspective, European airports alone employ roughly 12.3 million people and generate €675 billion each year (4.1% of GDP) in Europe. As air transport becomes increasingly prominent for both citizens and businesses, traffic flows will continue on a firm upwards trajectory and are, in fact expected to double in Europe by 2035 according to IATA estimates. This surge in air transport demand is placing increasing pressure on scarce airport infrastructure and capacity, which in turn can lead to delays, weakened connectivity and lowered quality of services.

Following the creation of a single market for aviation in the 1990s, and in light of continuous growth in air transport, the need for regulation of airport slots was acknowledged in order to ensure an efficient use of capacity at congested airports. Back in 1993 the EU adopted its first common rules for the allocation of slots at EU airports in line with the [IATA's Worldwide Scheduling Guidelines](#). Slots, granting the right to take-off or land at so-called 'Level 3' (or slot-coordinated) airports at a specific time period, are allocated by independent coordinators on the basis of historic rights (or 'grandfather rights') at the given airport. What is more, slots ownership is reassessed on an annual basis, whereby failure by an airline to use 80% of its allocated slots could result in their loss and reallocation to other airlines in the subsequent year (i.e. the so-called 'use it or lose it' rule).



In 2007 and 2008 the Commission adopted communications on the application of the [Slot Regulation](#). Besides seeking to ensure better enforcement of the rules, the Commission issued guidelines about the possibility of exchanging slots for money, also referred to as ‘secondary trading’. The communication furthermore addressed critical aspects relating to safeguarding coordinators’ independence and facilitating the access to slots to new entrants.

While the existing airport slots regime is based on good principles, the aviation landscape has evolved dramatically over the past 25 years, which calls for rules to be adapted accordingly to reflect the new market realities. In light of this, the [11th Florence Air Forum](#), which took place in Budapest last month, brought together policy makers, industry representatives, and academics for a timely discussion on the design flaws as well as the needs and reform options for a future slot allocation regime. More specifically, discussions revolved around the following critical questions:

1. How effective has the existing slots regime been in ensuring optimal connectivity, airport capacity utilisation and allocation of slots to airlines? Are there misuses of the rules that could be avoided?
2. What are the various administrative- and market-based measures (e.g. auctioning, congestion pricing models) that could be considered for improving the regime’s efficiency?
3. What are the possible ways forward for reforming the EU’s airport slots regime?

## Some Revisions of the Current Slot Regulation Regime Might Be in Order

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

Airlines have to obtain access to (or slots from) two different airports in order to be able to serve a given route. Yet, airports are under different national legal regimes, are owned by national or local authorities, are managed by these same authorities or by private operators and are otherwise very different one from another. Building a network of coordinated routes requires access to tens if not hundreds of very different airports. Slot allocation rules emerged at an international level in the early 1970s in the framework of IATA. Since then, regularly updated Worldwide Slot Guidelines are agreed in IATA and applied in almost 200 airports worldwide, which are declared to be congested. More than half of them are located in the European Union.

The rules regarding the allocation of airport slots in the European Union were introduced by way of Regulation 95/93, the so-called “Slots Regulation”, adopted in 1993. In other words, the currently still prevailing slot allocation regime was enacted more than 25 years ago. During the same period global passenger volumes have increased from 1,3 billion (1995) to 4,2 billion (2018). Minor amendments have been introduced over the years, but the last major review of the Slots Regulation, proposed in 2011, was finally suspended. It could be time to review the European slot allocation regime.

### The Existing Rules

At the center of the Slots Regulation are the so-called grandfather rights, which state that an airline can keep the slot indefinitely during the next same season, provided it uses it at least on 80% of occasions during that season. If the slot is used less than 80% during a season, the slot must be returned to the slot pool for a new allocation whereby the “new entrant rule” states that 50% of slots have to be allocated to newcomers. There are no restrictions as to what the slot can be used for (e.g., type of aircraft).

If an airport is declared “congested” (also called “level 3 airport”), i.e., when demand for slots outstrips supply, a so-called “slot coordinator” enters into function. This independent body is tasked with allocating the available slots in a transparent and efficient way.

It is important to note that both the IATA Slots Worldwide Guidelines and the EU Regulation 95/93 were created before air transport liberalisation unleashed its full dynamics, before the major flag carriers became privatised and before airports became really congested. At that time, all the big European airports were dominated by these national flag carriers. Consequently, the existing slots Regulation regime somewhat continues this situation into the liberalised and congested world.

### Time for a Change?

Since then, many new entrants, notably low-cost airlines, have entered the market with new business models and driven down air travel prices, thus leading to a huge increase in passengers. Incumbents, in turn, have become also more efficient, partly thanks to alliances, mergers, joint-ventures, etc. The single European aviation market has undeniably delivered good results for passengers.

Astonishingly, the 25-year old slot allocation regime has managed to cope with these transformations. The existing rules have been able to accommodate new entrants, new business models as well as the increase in passenger volumes. However, the above outlined slot allocation rules have been extended to more and more airports, as they became also congested.

### How to Reduce Congestion?

The most obvious way to reduce congestion would of course be to expand infrastructure capacity. Yet, this may be difficult because of lack of funds, limited availability of land, noise and environmental regulations and others more. But congestion can also be reduced by managing demand, as this is often done in other network industries. Road tolls can be a case in point. As is the case in many infrastructures, demand occurs at peak hours and expensive infrastructures are often built just to satisfy peak demand. By way of pricing peaks, demand could be shifted to hours and days with less demand or even to less



congested airports. Here, regulation will typically have to be used to incentivise behavioral change.

And this would not be unprecedented in the air transport industry. For example, the most sophisticated algorithms are used to provide pricing incentives to balance demand by airlines themselves. Seats are available even below average marginal costs to attract demand when necessary, while the highest prices are proposed for the seats for which most demand exists. But such instruments – though prevalent in other network industries where access to infrastructures and pricing are linked – have not (yet) been applied when managing airport capacity.

Actually, congestion pricing was never used in airports in the past, most likely because airlines are particularly wary of price differentiation by airports, as it might cover up discriminatory strategies or, even worse, strategies to obtain monopoly rents from airlines. Pricing management techniques in the hands of actors with market power can indeed lead to abuse. Still, in our view, pricing of airport capacity (charging for the slot differently according to the hour) should be tried out, if it were only experimentally.

## Pricing As Way to Promote a More Efficient Use of Airport Infrastructures

As a first step towards reducing congestion, some basic pricing measures could easily be introduced: indeed, airlines do not always use the slots they have originally requested. Incentives could for example be considered in the form of reservation fees or penalties in case slots requested are not effectively used or returned to the pool at the last minute.

One could also envision a secondary market for trading slots. The current Slots Regulation restricts the possibilities of slot trading, but there can be transfer of slots, one-by-one, between two carriers. However, despite such limitations, a market seems to be emerging, albeit today a quite secretive one. This is particularly the case when airlines are failing. Cases of using slots as collaterals in financial operations have also been reported.

A more flexible approach to secondary markets should indeed be envisioned. EU legislation already today encourages secondary markets for similar rights, such as frequencies in telecommunications markets. We think

that, for example, access to slots from the secondary market by new entrants should be allowed, provided that there is transparency in the allocation process and that slots do not end up in the hands of incumbents with deep pockets. One could be inspired here by the anti-hoarding provisions which are applied in the case of spectrum allocation.

We think that secondary trading can indeed lead to a more efficient use of airport capacity, at least when the market is liquid, as high prices will deter the use of certain slots by airlines extracting little economic benefit from them, such as freight services, services provided with small aircrafts or non-profitable routes. Rights over such slots should go to airlines with more ambitious strategies.

## Exploring the Synergies Between Slot Allocation and Airport Charges

But secondary trading will still not increase airport capacity supply. Since revenue derived from slot trading will not revert to the airport infrastructure manager, it cannot be used for capacity expansion. As a matter of fact, it cannot even be used as a signal for much needed capacity expansion.

Actually, auctioning slots would be a more appropriate mechanism to introduce market incentives for a more efficient use of airport infrastructure. Slot auctioning has indeed been discussed by academics<sup>1</sup> and proposed by competition authorities<sup>2</sup>. Still, implementation may be difficult and a very sophisticated design for the auction appears to be necessary in order to avoid overbidding and other exploitative practices.

But one does not need to go as far as auctioning, as price differentiations can already be introduced by some administrative measures, whereby an airport is defining different prices based on the scarcity of slots. As a matter of fact, price differentiation, based on objective criteria, is already possible under the existing Airport Charges Directive 2009/12 and is not always an illegal discriminatory practice.

1. Czerny, A. I. (ed.). (2008). *Airport slots: international experiences and options for reform*. Ashgate Publishing, Ltd.
2. Competition and Markets Authority, Advice for the Department for Transport on competition impacts of airport slot allocation, December 2018



In any case, any substantial evolution of the Slots Regulation in the direction of economic incentives will need to look at the synergies between the Slots Regulation and the Airport Charges Directive. The procedures for both slot allocation and for setting airport charges would have to be closely coordinated. Similarly, authorities regulating airport charges and slot coordinators would have to be similarly coordinated, if not integrated into one single authority altogether. As a matter of fact, this is the most common arrangement across the other network industries.



## Main Takeaways From the Discussion

By Teodora Serafimova, Florence School of Regulation – Transport Area

The implementation of the [Slot Regulation](#) has improved slot allocation at busy European airports in terms of neutrality and transparency, contributing to the creation of the internal market in aviation. Having said that, however, the regime was conceived at a time when the European air transport market was still dominated by a small number of traditional national carriers, whereas vast transformations have come upon the aviation sector since 1993. These have included the airline industry liberalisation and the subsequent creation of a Single Aviation Market and related EU-level agreements. Airlines themselves have witnessed turbulent developments, from alliances to mergers, joint ventures and bankruptcies. Low cost carriers (LCCs) have emerged and are competing (both amongst each other and with network carriers) at ‘Level 3’ (or ‘slot-coordinated’) airports. These new dynamics call for a rethinking of the existing slot allocation rules.

An analysis carried out already back in 2010-11 on the functioning of the Slot Regulation showed that the slot allocation system prevented optimal use of scarce capacity and thus required improvements, however, the subsequent recast process launched by the Commission failed to reach consensus about the way forward. As a result, 9 years later, the slot allocation regime remains unchanged, whereas air traffic is continuously growing and European airport capacity is becoming increasingly constrained.

In fact, Europe has witnessed a 34% increase in air passenger numbers over the past 5 years. As a result, the continent today hosts 104 (out of a total 204 worldwide) ‘Level 3’ airports. Several of these ‘Level 3’ airports are highly saturated with over 85% of the slots occupied in the busiest period of the day. The building up of new airport infrastructure, however, is becoming increasingly impossible and does not provide a sustainable long-term solution to addressing capacity issues.

With this in mind, the European Commission launched a new evaluation process in 2019, which will seek to build on the 2011 proposal while updating it so as to reflect market developments over the past 10 years. The

evaluation exercise and subsequent recast process aim to achieve a set of three high-level objectives, namely to secure sufficient capacity to meet demand for air travel; to ensure that existing capacity is used efficiently; and to guarantee fair and transparent competition between market players. The final study is expected to be published by Spring 2020. The 11<sup>th</sup> Florence Air Forum offered a well-timed platform for a first exchange of views amongst relevant stakeholders.

### *How Effective Has the Existing Slots Regime Been in Ensuring Optimal Airport Capacity Utilisation and Allocation of Slots to Airlines?*

To start with, forum participants agreed that the existing slots regime reflects a number of *good principles*, which should be preserved, as they have helped to contain flight delays in Europe to a reasonable level. For instance, the ‘grandfather rights’ clause has helped safeguard predictability and stability for airlines from one season to the next. The new entrant rule has been an important enabler for airline competition and has allowed for new markets to be served. As a consequence of the slot allocation regulation, we have observed the opening up of numerous new routes, many of which have been built up by new carriers, which in turn have provided wider consumer choices. To put things into perspective, Europe has witnessed over 5,000 new routes since 2009, according to IATA estimates. What is more, ACI’s connectivity measure shows that seven European airports are among the top 20 most connected airports globally<sup>1</sup>. Not the least, the establishment of independent slot coordinators has been key for ensuring independent capacity allocation.

Notwithstanding, there was also general agreement among the participants that the current regime contains *design flaws*, which have undermined the economic efficiency of the slot allocation system, both in terms of capacity utilisation and allocation of slots to airlines. It was argued that the regime’s grandfathering clause has inhibited competition between airlines, by freezing slot allocation and by giving an advantage to incumbent airlines over LCCs. In other words, the current rules were said to act as a barrier to market entry. As a result, we have seen the accumulation of large slot holdings by a small number of incumbent carriers. Another issue raised was the late slot return dates which in turn leave

1. Including FRA, AMS, CDG, MUC, LHR, MAD, ZRH



insufficient time to enable meaningful re-allocation of slots to another user, and thus go to waste.

The ‘use it or lose it’ rule was criticised for having led to behaviours where airlines hold on to slots even if they are unable to use them profitably, as opposed to making them available to competitors or new entrants who could potentially make better use of them. Due to the absence of enforcement measures, it was thus argued that there is no guarantee that incumbent slot holders are also the most efficient slot users.

Participants, moreover, raised concerns over observed slot misuse (‘double dip’ issue) as a result of poor implementation of the regulation’s rules. In other words, airlines have been able to cancel up to an additional 20% of the slots allocated before the historic rights baseline date and retain historic rights to those flights; meaning that in reality the 80/20 ‘use it or lose it’ rule is actually 64/46. The absence of a slot reservation system has, furthermore, enabled airlines to request more slots than their actual needs, without facing consequences, thus blocking out competitors.

It was pointed out that slot coordinators lack full overview of airlines’ network strategies, which oftentimes forces them to take subjective decisions regarding transfer of significant amounts of capacity. Finally, the current slot regulation does not take into account non-scheduled and irregular air services, such as business- and general-aviation. While business- and general-aviation constitute a growing market, associated with important benefits for the local economy, stakeholders were not convinced whether EU regulation is well suited to address it.

### *What are the Various Administrative- and Market-Based Measures (E.g. Auctioning, Congestion Pricing Models) That Could Be Considered for Improving the Regime’s Efficiency?*

As one can see from the above, inefficiencies stemming from the current slot allocation rules have constrained competition between airlines which in turn can translate into negative consequences for consumers in the form of lower quality of service and choice. This calls for a rethinking of the current framework and the need to bring outdated provisions up to date with new market realities.

As a starting point, the need to agree on a common vision and to establish clear definitions was stressed, in order to enable a constructive discussion on the evaluation and reform options for the current regime. Of crucial importance, in particular, is the need to reach consensus on what constitutes ‘efficient use’ of slots and, subsequently, on a methodology to measure it. While no clear consensus emerged during the discussions, a number of options for how to define efficiency were put forward, namely on the basis of the optimisation of passengers transported per slot, on the financial return generated for all actors per slot, on its overall impact on airport connectivity or even on a combination of all of the above.

As regards the definition of ‘slots’, on the other hand, participants called for an adjustment in order to convey not only a permission but also an obligation to use the slot. In other words, it is crucial to stress the fact that slots are valuable and their waste comes at a cost. The definition would also need to acknowledge the fact that slots are not homogeneous, as their value varies significantly with time and location.

In addition to clear definitions, there is a need for improved capacity assessment mechanisms in order to distinguish better between schedule-facilitated (‘Level 2’) and slot-coordinated (‘Level 3’) airports. What is more, the introduction of a new category of airports (‘Level 4’) was recommended in order to reflect the evolving needs of a growing number of super-congested airports, which may necessitate a different set of probably stricter measures.

Prior to embarking on the discussion around the various administrative- and market-based mechanisms for the reform of the Slot Regulation, participants agreed on the need to identify the root causes of the system’s inefficiencies. Moreover, it is important to clarify whether the flaws lie in the design of the rules or in the way these rules are being applied.

In view of the fact that the grandfather clause was identified as a competition inhibitor and a barrier to entry, there was broad agreement that it needs to be adapted. This could be achieved by factoring ‘additional slot criteria’ into allocation decisions, such as aircraft operator (i.e., use of ‘priority code’ reflecting individual ranking based on slot performance in previous seasons),



type of aircraft, type of service (freight vs passenger transport), as well as destination. The prioritisation (i.e., the weight attributed to each) of these additional criteria could be determined at a local level, thereby allowing for the emergence of local rules adapted to local needs. Their application would, however, need to be overseen and reported upon with a view to ensuring a high degree of transparency.

Participants, moreover, called for new rules about data sharing in order to secure availability and transparency of data related to slot coordination, which in turn are a key pre-conditions to a well-functioning market. Improvements in the capacity declaration process would be needed to address the issue of capacity underutilisation. A seasonal declaration of capacity, done in a timely and transparent manner, is key in order to reflect a continuously changing environment, especially at Level-3 airports, as well as in order to enable efficient planning.

When it comes to concrete measures, participants broadly agreed that there is scope for evolving the current regime by means of adapting administrative rules with a view to improve enforcement. One concrete example pertains to the enactment of an earlier slot return deadline, so that unused slots can be reallocated and reused efficiently. The late handing back of unused slots into the slot pool or the confirmed misuse of slots, two identified causes for inefficiency in the current regime, could be corrected by means of immediate sanctions or incentives. The introduction of enhanced slot performance monitoring standards was another measure suggested to ensure that scarce capacity is used efficiently.

An increased allocation of slots to new entrant airlines, notably by means of adapting the New Entrant definition in the regulation, was said to be a necessary measure for helping new entrants develop a competitive foothold in and fairer access to congested airports. The short series length, on the other hand, was criticised for leading to schedule fragmentation and wasted capacity. To address these issues, participants called for an extension of series' length, and for an alignment of durations with airline investment cycles.

Another shortcoming pointed out was the surprising lack of provisions in the regulation regarding airline insolvency. The only explicit provision to date is to be

found in the IATA-WSG rules. Some concrete suggestions emerged from the discussions. These included the automatic revoking of the operating licence when an undertaking is put into liquidation, the handing over of the slots from the problem airline to the independent coordinator, along with the definition of clear deadlines.

Diverging views were expressed, however, as regards the need and effectiveness of market-based measures (MBMs). While putting a price tag on slots is indisputably key in order to minimise misuse, MBMs, by definition, leave little ability to Member States to guarantee the right competitive outcomes. In light of this, stakeholders urged regulators to approach the design of these measures with great caution so as to avoid unintended consequences.

Slot trading was largely welcomed by the participants as a means to encourage slot mobility ('oil in the wheels') at heavily constrained airports, while minimising slot wastage. In the case of airline failure, in particular, slot trading could enable new entrants to acquire slots more quickly in exchange for cash. This, in principle, can create win-win situations, allowing swifter reallocation of slots while securing financial resources for failed companies. On the downside, it was noted, that in practice the purchasing was generally limited to incumbent carriers with high revenue or those willing to pay. What is more, the reported lack of transparency in relation to secondary slot trading was claimed to have resulted in windfall profits incurred by airlines at congested airports.

While auctioning, on the other hand, was referred to as the clearest instrument for efficiency, careful design will be key in order to minimise unintended distortions and side effects. Participants warned that auctions could lead to overpricing, making some routes unviable, especially where demand is uncertain, and potentially even resulting in airline bankruptcies. Moreover, the confiscation of airport slots, which the enactment of auctioning may entail, risks not only to disadvantage smaller carriers, but also to handicap European vis-à-vis global carriers, something that potentially could invite regulatory retaliation from non-EU countries.

In view of this, auctioning as well as more generally MBMs were presented as more relevant instruments in cases where large amounts of new capacity are introduced into the market, such as in the case of new runway creation. A well-designed auction, moreover, needs to reflect the





heterogeneity and the complementarity of slots, as air transport is a highly complex and interconnected system.

Peak load pricing, which was shortly touched upon in the discussion, was identified as an effective measure to mitigate demand during peak hours. Nevertheless, some concerns were expressed over its potential to address inefficiencies, given that airport charges are only a small part of the overall costs of a flight. What is more, peak load pricing works under the assumption that there are off-peak periods, whereas this is actually not the case at the growing number of super congested airports. Last but not least, participants called for enhanced coordination between EU rules governing airport slots and airport charges in order to avoid contradictory outcomes.

### *What Are the Possible Ways Forward for Reforming the Airport Slots System?*

Slot rules are of crucial importance as they shape the aviation market. Consequently, the current revision of the regulation needs to strike the right balance between efficiency, fair and transparent competition on the one hand, and growth and good connectivity on the other. What is more, an evolution away from a mere technical coordination role of slot coordinators to a more regulatory function that oversees capacity, connectivity and a broader set of public policy objectives, such as climate change, noise pollution and safety may be needed. A very important question that needs to be posed during the current evaluation is how the future regulation can help advance the European Commission's sustainability agenda and related 2050 decarbonisation objectives.

“Evolution rather than revolution” was a clear take away that emerged from the discussions, with participants agreeing that we have a good foundation in place (ref. the Commission's 2011 legislative proposal), which we now need to build upon and improve while adapting to the new market realities.

On the topic of administrative measures to improve the regime's efficiency, a number of concrete and easily implementable measures were put forward. These include the clarification of definitions (e.g., efficient use), the introduction of additional criteria in slot allocation decisions, being in particular mindful of local needs, the increase of the amount of available slots for new entrants,

as well as the enactment of sanctions (or incentives) for the late handing back of unused slots.

Split opinions were expressed about the applicability and effectiveness of market-based measures. Secondary slot trading was in principle supported as a beneficial practice, encouraging slot mobility at heavily constrained airports, in particular by facilitating easier access to slots for new entrants while minimising slot wastage. As for auctions, stakeholders expressed reservations on the grounds that theory sometimes differs from practice, and thus called for more careful examination and design in order to avoid unintended consequences. In light of this, the answer would instead lie in a combination of different measures, both administrative and market-based. These, in turn, need to be formulated in a dynamic way, so as to enable flexibility and regular updating of the rules in line with market developments.

The new regulation should moreover be seen as part of a bigger system and be consistent with the global WSG rules. Stakeholders, furthermore, agreed over the need to have closer alignment of rules so as to exploit potential synergies between the different pieces of aviation regulation, from Air Traffic Management to airport charges, and not the least sustainability objectives. While the importance of a global systems approach was highlighted in conducting the review so as to reflect the global nature of the aviation industry, stakeholders also stressed the need to adequately address local and regional concerns, with consumers being placed at the core of this future regulation.



## Evolving the Slot Allocation Regime Needs to Be Done Holistically While Keeping in Mind the Overall Aviation System

*A Comment by André Schneider, Geneva Airport*

A very large and diverse group of experts has met to discuss on how to navigate to a more efficient airport slots allocation regime in Europe. I believe it is important on the onset of the work to be done to review the slot allocation regime to summarise and clarify some of the context that will be necessary to be kept in mind during this work.

First, we have to recognise that any regulation within the aviation sector cannot be reviewed in isolation, but needs to be seen as part of the complete aviation system. This implies that we need to put very much emphasis on the linkages between the different regulations within the aviation system and consider them when reviewing one of them, like the slot allocation.

Second, the world around the aviation is changing and the society is voicing more and more concerns, such as the sector's impact on climate change and noise, as well as the way the aviation industry operates and considers these concerns. This clearly implies that any work on the future regulation has also to consider these concerns, and assure that the new slot allocation regime will not become a roadblock on the aviation industry's path to address such concerns.

When we look more specifically into how to navigate further towards a more efficient airport slots allocation regime, we need, on the one hand, to understand the different forces that are pulling such regulation, and on the other, to have clarity as to what constitutes 'efficient' in the context of slot allocation. If we look at the different pulling forces, we can identify four of them, namely:

1. Local needs and specificities, such as regional objectives and needs for the network development and connectivity, special infrastructural situation, importance of more ad-hoc aviation, like business and general aviation, and as mentioned above, societal and local population expectations, like climate change, noise, protection against increasing late operations hours.

2. Commercial needs, airlines and airport operators need to assure that the slot allocation mechanism recognises these needs and permits fluid development in a commercially attractive environment.
3. The need to recognise that European aviation is part of an international system and we need to stay integrated to avoid risks of disrupting our connectivity.
4. Finally, an increasing wish of an upward integration between slot allocation and route management.

Beyond this need to find the right compromise between these four influential forces, we also need to agree, when we start to work on this regulation, what we understand under an efficient approach to slot allocation. Should our view on efficiency be based on an optimisation of passengers transported per slot, or on financial return generated for all actors per slot, or finally on the impact on the connectivity of the airport, or a combination of the three. It will be crucially important to agree on a common view on this to allow a constructive discussion around what needs to be done.

I believe, and the discussions, we had, seem to also support this, that this regulation needs improvements but no one seems convinced that a total overhaul is necessary. Again, the slot allocation regime is part of a much wider system, and hence we need to avoid inducing change that will affect other systems in an unnecessary way or even endanger the overall system. Hence, I believe that we need to seek evolution as opposed to revolution, and given the systemic character of this regulation, we need to approach this evolution in a collaborative manner amongst all involved stakeholders as opposed to a confrontational manner.

In conclusion, it seems important to facilitate the evolution of the slot attribution regime to allow better integration of all needs, the local ones as well as the commercial ones, whilst staying integrated into the worldwide system and allowing a better integration with the ATMs. But, this better integration has also to balance better weight between these different needs to allow each stakeholder to be able to pursue in a coordinated fashion their own development path. And as a final thought, let us assure that each idea for evolution needs to be analysed holistically as a part of the overall system to avoid unintended results.



## Perspectives and Policies – No Time for a Soft Landing

*A Comment by Senthuran Rudran, UK Competition and Markets Authority (CMA)*

The opinions expressed in this publication are those of the author. They do not purport to reflect the opinions or views of the CMA.

### Introduction

The 11<sup>th</sup> Florence Air Forum on airport slots brought together a diverse range of views on how to improve the efficiency of the slot regime in Europe. All agree that a form of slot allocation system is required to ensure the efficient use of scarce airport capacity. There was also agreement that the current administrative regime has room for improvement, but further debate and study is required to determine the extent of change required to reform the slot allocation system to make it viable to manage the current levels of congestion at a number of European airports. There were disagreements about the optimal allocation method, but this is hardly surprising given the political economy around the European slot allocation system. Reforms will have distributional effects and will therefore impact vested interests in different ways.

In the remainder of this article, I will follow the structure of the Forum and provide a brief synthesis of the three key areas of discussion: 1) The effectiveness of the current system; 2) possible measures to improve the efficiency of the existing regime; and 3) conclusions on proposed reforms to the slot allocation system. In the final section, I will identify the questions that were left unanswered and where further work and attention is required from the European Commission (the Commission) and the airline industry.

### The Effectiveness of the Existing Slot Allocation Regime

Excess demand for airport capacity is a growing and widespread phenomenon. It is particularly prevalent in Europe, which is home to over half of the world's most congested airports. Congestion is forecast to get worse

over the next few years; it is predicted that by 2040, there will be 16 airports in Europe that will have congestion levels like those faced by London Heathrow today. Expanding airport capacity infrastructure is unlikely to be a feasible solution to the capacity problems given the political, legal and environmental barriers that have been and will likely continue to be in place in the short to medium term. Given this, the onus is on the slot system to ration demand for capacity efficiently. The Commission's review into the efficiency and effectiveness of the airport slot allocation regime is therefore important, timely and welcome.

It is logical to first assess the effectiveness of the current system. It was argued in some quarters that the current system was working adequately and there was little evidence to support the need for any reform. Why fix something that 'ain't broke'? Airline representatives presented quantitative evidence to demonstrate the good health of the sector: demand has continued to grow; despite capacity constraints, there has been a net increase in the number of routes being operated out of the most congested airports (Level 3 coordinated airports), from 9,000 in 2009 to over 11,500 routes in 2019; the year-on-year change in connectivity between 2017 and 2018 has increased by nearly 10% at Europe's most connected hub airports; utilisation rates at these major hub airports was close or very close to 100%; and low cost carriers have been able to find homes at congested airports like London Gatwick and Dusseldorf. While these facts are not disputed, it is not possible to draw any causal link between this evidence and effectiveness of the existing slot regime. These features could be attributed to a number of causal factors, for example, the growth in airline demand could have resulted from the general economic growth over the period.

Stronger arguments, which were more qualitative in nature, highlighted the operational benefits of having an administrative system based on grandfathered rights. It creates certainty for users. Airport coordination by trusted and independent third parties allows industry stakeholders jointly to determine solutions to the complex challenges of scheduling and coordination, particularly when airlines fly between two fully coordinated airports. The administrative process, although not quantitatively assessed, will likely incur lower transaction costs than alternatives that require a price mechanism. Currently, slot coordinators allocate slots, every six months, to incumbents if they have used the slot 80% of the time



in the previous season. A pricing mechanism such as an auction would require airlines to bid periodically for the right to have a slot irrespective of how they have used the slot in prior periods, imposing costs on airlines to: (i) determine the value of the slots they hold and the slots they want to hold; and (ii) to participate in the auction process, ie bidding for slots. However, over time, you would expect airlines' costs related to auctions would fall as they become more familiar with the process. Airport coordination is also valuable even when there is ample capacity: it assists in reducing delays and the costs of congestion by evening out the flow of air traffic movements during the day and/or hour; and optimises the use of airport facilities and manages congestion in other parts of airport infrastructure, such as terminals.

However, under capacity constraints the current system exhibits a number of inefficiencies, including: how the scarcity rents enjoyed by airlines are distributed; the detrimental effect on competition in downstream markets (non-slot holders are prevented from entering and/or expanding services at slot-constrained airports); and how the absence of price signals make it difficult for airlines, airports and regulators to understand the value of slots and therefore distort operational and investment decision-making.

The cause of the inefficiencies rests on the design of the current system and the regulations from which it flows. The current EU regulations are an anachronism. Drafted in 1993 with only minor modifications since, the regulations have not adapted to the wide-ranging market developments that have taken place in the past 25 years. The liberalisation of the airline industry, leading to the advent of a single aviation market and Open-Skies air service agreements, the disruptive innovation of low-cost carriers, the formation of global alliances, multi-hub airlines and of the most relevance, the saturation of airport capacity, means that the existing regime is no longer fit for purpose. The question, therefore, should not be whether the system needs reform but what measures are required to address the inefficiencies of the current regime. I discuss these measures below.

## **Improving Efficiency of the Slot Regime Through Changes to the Administrative System and/or Via the Introduction of Market-Based Measures**

One of the objectives of the current regulations is for the 'efficient use of airport capacity', but it does not define precisely what is meant by efficiency. This has led to a variety of interpretations, depending on the perspective of the stakeholder. To be able to appraise properly which measures should be introduced to improve the efficiency of the current system, it is important to determine the appropriate framework to answer the question at hand. In general terms, the discussions around efficiency appear to fall into two categories: first, technical efficiency, which focus on a broad range of operational metrics such as maximising capacity utilisation, maximising passenger per mile, minimising delays etc.; and second, economic efficiency, which focusses on allocating slots to users that will maximise social welfare. Both are important from a policy perspective but to address the problems of competition, operational and investment incentives and distribution of scarcity rents that eventuate under the current system, the latter rather the former is of most relevance.

With this framework in mind, the conventional economic argument would be that a pricing solution would lead to greater allocative efficiency than an administrative system. This is because it is difficult to identify which airline values a slot the most without exposing the price competing airlines are willing to pay. A pricing solution is also likely to have beneficial impacts on competition in downstream markets, leading to lower airfares and better quality of service. Some have argued that a pricing solution such as an auction will result in the opposite, ie higher airfares because airlines will have to pay for slots they currently get for free. These are misplaced fears and can be dispelled if the auction is designed so that airlines pay an upfront fee for the slot (i.e. a sunk cost) and there is a competitive downstream market. Allocating slots to the most efficient user should help achieve the latter while the authority responsible for approving the auction design should consider payment structures so slots fees are a sunk rather variable cost. With a pricing solution, the scarcity rents, which are currently being enjoyed by airlines, would shift away either to the government or



airports or both. This again may have positive impacts on investment incentives for airport capacity expansion; airlines which benefit from rents today have an incentive to foreclose or delay airport expansion to protect existing profit margins.

These principles were vigorously challenged at the Forum. The most important and relevant challenges, in my view, were: first, whether the same allocative efficiency could be achieved within the administrative system accompanied by a formalised, liquid secondary market; second, whether the initial allocation of slots via an auction would lead to a greater concentration of slots to airlines with market power and the deepest pockets; and third, whether the allocation problem is too complex to be taken account of in auction design.

I will consider each of these in-turn. In principle, a fully effective and liquid secondary market should lead to improvements in allocative efficiency. The Commission put forward a similar solution in its 2011 proposals. However, there is limited evidence to suggest that the secondary market is working efficiently. In appraising this option, the Commission should take heed of the discussions at the Forum where some of the major hub airlines indicated a less than favourable attitude towards secondary trading. At some airports, unless the hub carrier is willing to engage with the proposals, most of the slots will not be available for trade. This can be seen in the example of how the secondary market is functioning at London Heathrow, which is probably the most developed one in Europe. At London Heathrow there have only been a small number of trades and only a very small proportion of those have involved British Airways (BA), the hub carrier at London Heathrow. The secondary market at London Heathrow is relatively ineffective and this appears, at least in part, been caused by BA's reluctance to engage in secondary trades.

The key to an efficient slot allocation in the presence of capacity constraints, is to ensure that slots are given to the airlines that value them the most (i.e. those that are willing to pay the marginal social cost), provided that no airline has substantial market power. As some of the major airports in Europe have hub operations, it is likely that a hub carrier will have some degree of market power. However, the market power externality has been wrongly conflated with a 'deep pocket' argument suggesting that airlines that have a stronger balance sheet would bid

more aggressively and more than their willingness to pay to obtain slots. Any such conduct belies economic rationality. An efficient auction would lead to allocation of slots to the user with the highest willingness to pay and would require participants to act in their own best commercial interests, i.e. bid truthfully reflecting the value they hold for the slot. Auction design should be able to address the market power externality, for example by introducing limits on slot holdings or ring-fencing slots to facilitate entry and expansion by other airlines; and create the right incentives for participants to bid according to the value they hold.

It is also not disputed that the auction process would be a significant shift from the status quo and clearly there is a risk this could increase complexity to the sector. These are legitimate and serious concerns that must be considered in any policy formulation. It is an area that requires further study and research, and the Commission should investigate these matters thoroughly before presenting its new proposals.

## Conclusions on the Proposed Reforms to the Airport Slot Allocation System

"Evolution, not revolution" was appropriated as a strap line for the Forum and to characterise the nature of the changes required to make the current system relevant for today's market. It is not a view I share nor is it one that effectively captures the breadth and depth of the discussions.

The prevailing view was that the current system is not fit for purpose. The 'do nothing' option cannot be feasibly accepted, and this was broadly a consensus view at the Forum.

From an economic and regulatory perspective, an administrative mechanism by its very nature will not lead to efficient or effective outcomes. Some of the proposals for evolutionary change such as a revised new entrant rule will lead at best to marginal improvements. A revised administrative system will still face some of the same difficulties as today, such as airlines' incentives to game the system by exploiting the information asymmetry that exists between them and the coordinators.

Having heard all of the arguments at the Forum, I still believe that auctions will lead to the most efficient use



of slots and help address the manifest problems of the administrative system. Secondary trading might also lead to improvements but as discussed earlier, it is dependent on airlines willingness to trade and given what was said at the Forum, I am not convinced that there is much appetite for this happen, at least from some of the big hub carriers.

The Commission, in revisiting its proposals for change, must take full account of the changes that have taken place in the market, not only since 1993 when the regulations were introduced but even in the last 8 years, since their last assessment of the issue.

Another important lesson from the Forum was to ensure that the slot allocation system is considered in context. While the effectiveness of slot allocation has major implications for the effective functioning of the air services market, it is but one cog in a highly complex system. The Commission in its review of the slot regulations must assess the impact on the wider aviation system, and the interrelations, economic, political and legal, of these different aspects. Silo thinking on one part of a network infrastructure is unlikely to lead to good outcomes in the long run.

I end with a list of questions that were left unanswered and ones that require further study and attention to arrive at an efficient solution to address the limitations of slot allocation. The key work to be undertaken includes:

- Can secondary trading be effective? A quantitative study on the effectiveness of secondary trading;
- What can be done to encourage secondary trading within an administrative allocation system? Policy ideas on what can be done to facilitate and encourage slot trading within the current administrative framework, including creating incentives for airlines to trade, e.g. slot reservation charges; and
- What is the optimal auction design? Comprehensive study by auction experts on auction design to allocate slots, including mitigations on externalities such as market power.

My view is that it is important that, the Commission, academics in the field and the airline industry should conduct these studies before finalising any policy positions.



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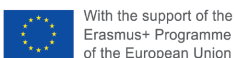
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