

EUROPEAN COMMISSION

**Impact assessment of revisions to
Regulation 95/93**

Final report (sections 1-12)

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European Commission
DG MOVE
DM24
Brussels B-1049

Prepared by:

Steer Davies Gleave
28-32 Upper Ground
London
SE1 9PD

+44 (0)20 7910 5000
www.steerdaviesgleave.com

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EXECUTIVE SUMMARY

Background

1. Many of Europe's airports are capacity constrained. The global financial crisis has caused reductions in traffic which have reduced congestion at many airports, but in the medium term demand is expected to recover and traffic is already starting to increase again. Some of Europe's busiest airports plan to expand capacity and may be able to accommodate some or all of this increase without worsening congestion, but many others including London Heathrow and Paris Orly do not plan to increase capacity. Therefore, at some airports, the problem of capacity constraints is likely to worsen.
2. Regulation (EEC) 95/93, as amended by Regulation (EC) 793/2004, establishes a mechanism for the allocation of capacity at congested airports. The Regulation seeks to ensure non-discriminatory and transparent procedures largely based on the International Air Transport Association (IATA) World Scheduling Guidelines. Member States designate congested airports as co-ordinated, and slot co-ordinators at each of these airports seek to balance the demand for slots with the supply. Where demand exceeds supply, the co-ordinators allocate slots on the basis of a series of criteria, in particular including historic preference ('grandfather rights').
3. The Commission issued Communications in 2007 and 2008¹ which set out a number of issues with the operation of the Regulation. The key issues identified included:
 - The Regulation requires coordinators to be independent but there had been some complaints that not all were sufficiently independent.
 - The Regulation requires that 50% of slots be allocated to new entrants, but it is not clear whether this has been successful at mitigating barriers to entry.
 - The Regulation requires slot coordinators to make data available to interested parties, but it is not clear whether there is sufficient transparency.
 - The Regulation allows for local guidelines, but the scope of these is limited as the Regulation is relatively prescriptive.
 - Secondary trading in slots occurs at the London airports, and there is some evidence of this occurring at other airports, but the Regulation is unclear as to whether it is permitted; the 2008 Communication stated that the Commission would not pursue infringement proceedings against States in which this occurred provided trading was transparent.
 - The Regulation allows for a flight plan to be rejected if the air carrier does not have an airport slot, but this reconciliation rarely takes place.
4. This study provides an evaluation of the current operation of the Regulation, and an impact assessment of various options for revision to the Regulation. The analysis has focussed on a sample of 15 airports, selected to include all of the large European hubs and the other most congested airports, as well as a representative sample of other large airports. The study has involved bilateral interviews with key stakeholders; an open public consultation; detailed analysis of data; and modelling of impacts.

¹ COM(2007) 704 final; and COM(2008) 227 final

Demand and capacity at EU airports

5. The Regulation, and therefore potential changes to the Regulation, only has an impact to the extent that demand exceeds capacity. Therefore, a key issue for any evaluation of possible revisions to the Regulation is the extent to which demand will exceed capacity at EU airports. Therefore, forecasts for demand growth, and for the extent to which airports will be able to expand capacity to meet this growth, are an important starting point for this study.
6. The 2008 EUROCONTROL study ‘Challenges of Growth’² predicted that airport capacity would not be sufficient to accommodate demand at a large number of European airports, and therefore congestion would significantly worsen. However, this study was undertaken before the downturn in traffic caused by the economic crisis. The number of flights in 2010 is 14% lower than it would have been if traffic had continued to increase on the pre-2008 trend, and whilst there is now some evidence of recovery, the most recent EUROCONTROL forecasts indicate that around five years of growth has been lost. Meanwhile, many European airports are still planning to expand capacity. As a result, the gap between demand and capacity has been reduced.
7. Demand currently exceeds capacity throughout most or all of the day at six European airports (London Heathrow, London Gatwick, Paris Orly, Milan Linate, Düsseldorf and Frankfurt). Demand also exceeds capacity during peak hours at a number of other airports. There is currently a major expansion underway at Frankfurt airport, including a new runway, and as a result Frankfurt will probably have sufficient capacity to accommodate most demand for the period covered by this impact assessment (2011-2025). Limited expansion is also expected at Düsseldorf and Gatwick but demand will continue to exceed capacity throughout the day at these airports. By the end of this period, it appears likely that demand will also exceed capacity through most or all of the day at Paris CDG. In addition, no expansion in capacity is planned at Heathrow, Orly or Linate, and therefore the gap between demand and capacity will grow further at these airports. Congestion will also worsen at some other key European airports including Amsterdam Schiphol.

The current operation of the Regulation

8. The analysis of data, public consultation and interviews undertaken for this study have shown that, although there is no single severe problem with the operation of the Regulation at present, there are a number of issues. These fall into the following main categories:
 - **Sub-optimal use of capacity at some airports:** The system of slot coordination cannot generate more airport capacity, but should be designed to ensure that limited capacity is used as effectively as possible. At some airports, this does not occur, because of factors which include a significant proportion of slots being unutilised, and use of a high proportion of small aircraft, limiting the number of passengers that can be transported within the constrained capacity. In addition, some European regions are losing direct services to hub airports as airlines use

² Eurocontrol (2008): Challenges of growth

their slots for other services.

- **Difficulties for new entrants in obtaining slots:** Despite significant new competition in the European air transport market, including the growth of low cost airlines such as easyJet and Ryanair, the system of historical preference means that it is very difficult for new entrants to challenge the dominant position of the traditional incumbent airlines at the most congested airports. At these airports, the mobility (turnover) of slots is very low. Incumbent carriers have little incentive to give up slots, even when other carriers could use them more effectively than they could.
- **The operation of slot coordination:** As there are significant differences between the organisation and operation of different coordinators, these issues also vary, but include (in some cases) lack of transparency of data, insufficient independence, and inadequate application of the requirements in the Regulation relating to slot monitoring and enforcement.
- **Consistency with the Single European Sky:** In order to improve the gate-to-gate performance of European air traffic management, airports need to be integrated into the planning of the network.

9. The key drivers of these problems are:

- **Changes in the air transport market since the Regulation was introduced:** In particular, there is increasing airport congestion, as it is not possible to expand capacity to meet demand at all airports. This means that the Regulation has more impact, and will have more impact in the future, than it did at the time that it was introduced. In addition, the Regulation was introduced at a time when the European air transport market was still dominated by a small number of traditional national carriers; it is now much more competitive. The Regulation also predates the Single European Sky initiative.
- **Lack of clarity in some elements of the Regulation:** In some respects, the Regulation specifies general principles (such as functional independence of the coordinator) without specifying in detail how this should be achieved. It is less detailed than, for example, the IATA World Scheduling Guidelines. In particular, the key issue of secondary trading is left undefined. This means it is interpreted differently in different Member States.
- **In some Member States, failure to implement some parts of the Regulation effectively:** In addition, as the Regulation is not very specific in some respects, it is difficult for the Commission and Member States to enforce.

10. Although the most effective way to address these problems would be to expand airport capacity, in many cases this is not a realistic option, given environmental and noise concerns around some major European airports. As congestion at some airports is likely to worsen, and more airports will become congested in the future, over time these problems will become more widespread and have a greater impact if they are not addressed. The rest of this section describes the problems that have been identified in more detail, and then outlines the recommended solutions.

The operation of slot coordination

11. We have identified a number of issues with the operation of the system of slot coordination:

- In some Member States, aspects of how the coordination system is structured could be interpreted to limit the independence of the coordinator – although there is no evidence that there is a problem in practice. In particular, in Spain and Portugal, the slot coordinator is part of the national airport management company; in Germany, the coordinator is seconded from the main national airline (albeit on a very long secondment); and in France and Germany, the coordinators' salaries are linked to salaries in main national airlines.
 - The extent to which information is publicly available on capacity parameters, local guidelines, and slot availability, allocation and utilisation, varies significantly between coordinators. Whilst all coordinators make slot information available to one or both of the two online slot databases, the most commonly used database has relatively limited functionality and can only be accessed by registered airlines.
 - There are differences in how business aviation is handled by coordinators in different Member States, although at most coordinated airports, it operates using ad hoc slots or is not coordinated. As a result, it is difficult or impossible for business aviation to obtain historic rights to slots, and therefore it is likely to be forced out of some airports as congestion worsens.
12. The Regulation requires that slots should be withdrawn where utilisation criteria are not met, and requires that penalties should be available for various types of slot abuse. As a result, slot coordinators are required to undertake monitoring of slot use and abuse. Most stakeholders believe that slot monitoring and enforcement has been effective, where this is undertaken.
13. However, there are also some issues with the slot monitoring and enforcement system:
- Not all coordinators apply the criteria in the Regulation for slot withdrawal, and there are differences in interpretation regarding key elements of the Regulation relating to this.
 - Not all Member States have complied with the obligation to introduce sanctions for slot misuse into national law: There are no sanctions available in Sweden or in Ireland, and the scope of sanctions in the Netherlands is less than required by the Regulation.
 - The types of slot misuse for which sanctions can be imposed varies significantly between Member States: For example, penalties can be imposed for late handback in Germany and Spain, but not in other States. In Spain penalties can also be imposed for transfers of slots (secondary trading).
 - The frequency with which sanctions are imposed varies significantly: Sanctions are imposed more often in the UK, where they can be imposed directly by the coordinator, than in other Member States where they have to be imposed by a separate authority. In Austria, imposition of sanctions requires a criminal process, which means that sanctions are much more difficult to apply, and no sanctions have been imposed in Austria.
 - Although the Regulation allows for *ex ante* monitoring of the consistency of flight plans and airport slots, this only happens regularly in France, Germany and at Madrid and Palma de Mallorca airports – other Member States, and Spain at its other airports, rely on *ex post* imposition of sanctions, where this is necessary.

The results of slot coordination

14. The analysis undertaken for this study demonstrates that there are a number of issues with the results of the Regulation at present:
- The mobility (turnover) of slots is low at many congested airports. Of the most congested EU airports, only Gatwick airport has seen significant changes in slot holdings in the last few years, other than changes caused by the takeover of one airline by another. As a result, it is difficult for new entrants to grow operations at congested airports; although this has not stopped the substantial overall growth of new airlines such as Ryanair and easyJet (Ryanair in particular has developed operations mostly at less congested, secondary airports).
 - The new entrant rule has resulted in fragmentation of the schedule and has not been successful at promoting competition. Many slots allocated to new entrants are returned to the pool after just one season. In addition, at most EU airports, including some very congested airports such as Gatwick, Düsseldorf and Frankfurt, less than 50% of slots are allocated under the new entrant rule, partly due to a lack of requests that meet the criteria.
 - Even at some airports at which demand for slots significantly exceeds supply, over 10% of slots allocated are not utilised, which indicates that scarce capacity is under-utilised. However, at the most congested airports such as Heathrow, utilisation is high (over 95%), and when allocating slots at Heathrow the coordinator takes into account that some slots will not be used, so this has little or no operational impact.
 - At some airports, short series of slots with historic rights can also result in inefficient capacity utilisation, by blocking capacity in the summer peak and preventing year-round services operating.
 - At some airports, late handback of slots and overbidding reduces the effective capacity that can be utilised. However, the impact on capacity utilisation is relatively small at the airports we have analysed.
 - European regions are losing direct links to some of the most congested airports, particularly Heathrow, as airlines chose to use their slots for more profitable longer-haul services.
15. In addition, the allocation of slots at some of the most congested airports which has arisen through the administrative slot allocation mechanism does not appear to be consistent with an economically efficient use of capacity, which we would expect to be operations with larger aircraft to accommodate the most passengers possible given the capacity constraint. At some airports at which demand exceeds capacity throughout the day, and where secondary trading does not occur (particularly Düsseldorf and to a lesser extent Paris Orly), a substantial proportion of slots are used for flights with quite small aircraft. The numbers of passengers that could be transported within the constrained airport capacity could be increased, and fares reduced, if larger aircraft were used, but there is little incentive for the incumbent airlines to give up slots to carriers who could use them more effectively.
16. The analysis also shows that secondary trading at the London airports has been successful in improving capacity utilisation, increasing the mobility of slots between airlines and allowing new entry on some (particularly long haul) routes. Secondary trading has not had clear negative impacts in terms of increased market concentration, although it has resulted in increased concentration on some short haul routes, as some

short haul carriers have sold slots to long haul carriers. Several regional routes to/from Heathrow have been withdrawn since 2006, but in most cases this was due to airlines and airline owning groups reallocating these slots to other more profitable services, rather than secondary trading.

17. Despite the Commission's 2008 Communication, there is still little evidence of secondary trading occurring at other EU airports. The German coordinator acknowledges that artificial exchanges have occurred at Frankfurt and Düsseldorf but there is no detail available on what trades have occurred and the carriers involved deny that there have been any. We have also identified a joint operation at Milan Linate airport which is in effect a slot lease. The lack of evidence for secondary trading at non-London airports could be partly because secondary trading is not transparent at other airports, but it is also partly because secondary trading is not permitted at certain airports (including Paris Orly, and the Spanish airports).
18. However, the fact that secondary trading has had much less impact at Gatwick than Heathrow indicates that the potential impact of secondary trading at airports other than Heathrow is probably lower. In part this is because the circumstances at Heathrow are unique, in terms of the very strong demand for slots for profitable long haul services, the strength of competition between airline alliances, and the lack of any prospect of capacity expansion in the foreseeable future.

Conclusions of the impact assessment and recommendations

19. Some of the issues identified with the operation of the Regulation can be addressed through more effective implementation and enforcement, but other issues can only be addressed by amending the Regulation, and the quantitative and qualitative impact assessment has identified a case for amendments in several areas. A number of options for reforms to the Regulation have been considered, including options that would:
 - improve the independence of the coordinator;
 - improve the transparency of slot data;
 - make the system of slot monitoring and enforcement more effective;
 - make it easier for business/general aviation to gain slots;
 - introduce market mechanisms for primary allocation of slots and/or for secondary allocation (secondary trading);
 - revise the 'new entrant' rule; and
 - increase slot utilisation or the number of slots that can be allocated.

Options to improve the operation of the coordinators

20. The Commission's 2007 Communication stated that some airlines were not satisfied with the level of independence of some coordinators. We found that most stakeholders are now satisfied that coordinators are independent, but there are a number of arrangements which could be considered to limit the independence of coordinators. In particular, the fact that the coordinator is part of the airport management company in Spain and Portugal means that it is difficult to prove that the coordinator in these States does operate independently, and depending on interpretation this could be considered to be an infringement of the current Regulation. In addition, the fact that

funding of some coordinators is concentrated on a small number of airlines means that some coordinators are excessively financially dependent on one interested party, which both could be considered to compromise their independence, and could also leave the coordinator vulnerable in the case that that airline had financial problems.

21. In order to address these issues, we recommend that the Regulation should be amended to:
- require organisational as well as functional separation of the coordinators from interested parties such as airlines and airport management companies;
 - require that funding of the coordinator be shared between airlines and coordinated airports, divided between airports according to the workload at each airport, and between airlines according to their share of operations at those airports; and
 - give Member States the ultimate responsibility to ensure that the coordinator has sufficient resources to undertake its tasks.
22. Some airlines also complained about a lack of information on slot availability and allocations, and the amount of information published by coordinators varies considerably. Many coordinators publish detailed information on demand, capacity and utilisation on their websites, which is helpful to airlines and other stakeholders, but not all do. In order to improve transparency, we also recommend that all coordinators should publish online:
- all capacity parameters and local guidelines applying at each coordinated airport;
 - at the start of every season, a summary of requested and allocated slots and capacity, by day, for the peak week, at each coordinated airports;
 - at the end of every season, a summary of slot utilisation by airline; and
 - an annual report on their activities.

Options to ensure proper use of slots

23. A slot reservation fee was introduced at Düsseldorf airport in 2003/4 and significantly reduced the problem of late handback. Slot reservation fees are not referred to by the current Regulation and therefore it is not clear whether they are permitted or not. We recommend that the Regulation should make clear that slot reservation fees are not inconsistent with the Regulation provided the revenue from the fees (including fees for slots that are not operated) offsets other airport charges and is therefore revenue-neutral for airports, but it should be up to individual States and airports whether to introduce them. If a slot reservation fee was successful at reducing under-utilisation of capacity due to late handback, it could increase the number of flights by over 1% at some of the most congested airports.
24. Some States including Germany and Spain also have penalties in national law for late handback of slots. Although coordinators argued that penalties would be less effective than reservation fees, they do have some advantages, including that penalties can be more flexible and would not be imposed where there was a good reason for late handback. Therefore, we recommend that the Regulation should state that penalties should be available for late handback of slots.

25. We also recommend that a number of other, relatively minor, changes should be made to the system of slot enforcement as defined in Article 14, to make this more effective.
26. In addition, as noted above, some Member States have not complied with the obligations in the existing Regulation to introduce penalties. We recommend that the Commission should use its powers to encourage these States to comply with the Regulation. However, the impact of this would be limited by the fact that these States are ones in which there is currently little airport congestion.

Business aviation

27. It is very difficult for business/general aviation to gain historic rights to slots and as airports become more congested, it is likely that business aviation flights will not be able to obtain ad hoc slots to operate. This could be addressed by reserving slots for business aviation. However, this would not be an efficient use of constrained capacity, as business aviation flights typically carry 2-3 passengers, far less than commercial flights. Member States already have other tools by which they can reserve capacity for business aviation, if they believe this to be appropriate, and therefore we recommend that no change is made to the Regulation in this respect.
28. There is also some variation in how coordinators interpret the current Regulation: some coordinators consider that business aviation should not gain historic rights unless they operate at the same time, on the same day and on the same route, whereas other coordinators consider that they do not have to operate on the same route. The Regulation could be clarified in this respect, and it would be more consistent for business aviation not to have to operate on the same route to gain historic rights. However, if any change to this made it possible for business aviation to gain historic rights at the most congested airports, this would not be an efficient use of constrained capacity and therefore we recommend that no change is made.

Single European Sky II

29. Slot coordinators may have a role to play in the Single European Sky. The Network Manager will need information on schedules from all European airports in order to plan air traffic management capacity. In principle this could be provided by the coordinators, as they already collect extensive data covering most significant European airports, but in most States coordinators currently do not have powers to collect data for airports which are neither coordinated nor schedule facilitated (level 1 airports).
30. If the Regulation is amended, the coordinators should be given the powers necessary to collect this data for level 1 airports, if the Network Manager in the future requests that they do so. A further advantage of doing this would be that it would facilitate emergency short-term coordination of an airport, which the Regulation allows for and which could be useful in some exceptional circumstances (for example during the volcanic ash crisis). This would need to be accompanied by measures to ensure that sanctions could be applied to airlines that did not provide this information when required to do so, or did not provide accurate information.

Secondary trading

31. We recommend that the Regulation should be amended to explicitly permit secondary trading at all EU airports, through temporary or permanent transfers of slots between air carriers. This could generate significant economic benefits by improving the economic efficiency of slot allocation and utilisation at EU airports where demand for slots significantly exceeds capacity, such as Paris Orly and Düsseldorf. By 2025, we estimate that secondary trading could increase the number of passengers handled at Düsseldorf by 9% and at Orly by 13%. Secondary trading could be particularly effective at Orly because the fact that there are few constraints other than the annual administrative slot cap increases the opportunities for trading. The impacts even at these airports are likely to be less than the impacts have been at Heathrow, and the impacts would be limited at other EU airports where demand for slots does not exceed supply to the same extent. **Nonetheless, we estimate that the net economic benefits from introducing secondary trading EU-wide are greater than the net economic benefits of all of the other options put together.**
32. Competition authorities have expressed a concern that secondary trading could lead to increased market concentration. Evidence for this is mixed at the London airports, and secondary trading increases the cost (or opportunity cost) to incumbent carriers of acquiring or holding slots that they cannot use profitably. However, there could be a greater risk of negative impacts at other airports where the main incumbent carrier has a larger share of slots. Some measures could be taken to reduce this risk:
- anti-competitive restrictive covenants could be explicitly prohibited; and
 - measures should be taken to make slot trading more transparent, for example by publishing all trades which take place, and setting up a mechanism for carriers to advertise their willingness to purchase and divest particular slots.
33. We have also evaluated more radical options to address the risk of negative impacts on competition, such as blind auctions of slots carriers wish to dispose of, and forced disclosure of traded prices. However, we do not recommend these, because there is a risk that these would reduce the number of trades and hence the benefits of secondary trading. In addition, requirements on transparency of price information would be impractical to enforce.

Withdrawal of grandfather rights and auctions of slots

34. As discussed above, at some congested airports where secondary trading does not currently occur, there is some evidence that slot allocation is economically inefficient, reducing the number of passengers that can be transported within the limited capacity and therefore leading to higher fares. Secondary trading should address this, by giving carriers an incentive to sell slots if they cannot use them efficiently, but this depends on incumbents being willing to sell slots to potential competitors. An alternative would be to withdraw grandfather rights and auction the slots, although if an incumbent was unwilling to sell slots to competitors it might also be willing to buy them in an auction, if this prevented competitors from acquiring them.
35. Withdrawal of grandfather rights would generate significant practical problems, primarily due to the complexity of auctioning a large number of heterogeneous assets

(slots), the need to coordinate auctions at multiple airports which would be inter-dependent, and the instability and fragmentation caused to airline schedules. This would not be comparable to auctions of other assets, such as radio spectrum, due to the complexity of the auctions and the interactions with the scheduling system. These problems could be reduced but not altogether avoided if withdrawal of grandfather rights was restricted to a small number of the most congested airports, as this would avoid the need to coordinate multiple inter-dependent auctions.

36. We have tested the economic impacts of withdrawal of grandfather rights at Heathrow and Orly. This analysis indicates that auctions could produce benefits, but that these should not be significantly greater than the benefits generated by secondary trading, and (at Heathrow and possibly also at Orly) would be offset by the negative impacts on airline schedules and consequent increases in airline operating costs. Therefore we recommend that secondary trading should be permitted at all EU airports before withdrawal of grandfather rights is further considered.

Auctions of slots where new capacity is created

37. Where capacity is expanded at a congested airport, or in the relatively rare circumstances where a large volume of pool slots becomes available at a very congested airport (for example if an incumbent carrier becomes insolvent), an administrative allocation is unlikely to lead to an economically efficient allocation of the capacity. The results of the administrative allocation could be improved if the new entrant rule was revised, but nonetheless an auction of the new capacity should lead to a more efficient allocation. An auction for newly created slots would be relatively complex to design compared to auctions for other assets such as radio spectrum, but would not generate the same issues caused by withdrawal of grandfather rights. The revenue from the auction could either go to the government or to the airport operator, to offset the cost of building the new capacity.
38. We recommend that the Regulation be amended to allow newly created slots to be allocated by auctions. As an auction for new capacity would only be beneficial under certain circumstances (for example if it was decided to expand a congested airport such as Heathrow or Orly), the decision to undertake an auction should be a matter for the Member State concerned. The appropriate design for the auction would also depend on the circumstances and therefore should be decided by the State concerned. The Regulation could also allow an auction in the rare cases when large volumes of pool slots become available.
39. The analysis undertaken for this study indicates that, if mixed mode operation was introduced at Heathrow (allowing an increase in slot capacity of 10%), the number of passengers transported would increase by 10.6% if the new slots were auctioned, compared to 8.4% if the slots were allocated through the current administrative process and 8.7% if the slots were allocated by an administrative process but with revisions to the new entrant rule. Therefore the economic and social benefits of the expansion would be significantly greater if slots could be auctioned.

Amendments to the new entrant rule

40. As noted above, the new entrant rule has been ineffective at encouraging sustainable competitive air services, and by encouraging allocation of small numbers of slots to a large number of carriers, the current new entrant rule has led to fragmentation of the schedule at congested airports.
41. The impact of the new entrant rule would be reduced if secondary trading and auctions for new capacity were introduced. However, it would continue to have some impact, for example when slots at a congested airport are allocated following the insolvency of a carrier. Therefore, we propose a number of changes to the new entrant rule to enable slots to be allocated to carriers which would be better placed to provide commercially viable competing services. The main changes that would achieve this are:
- allow an airline to be classified as a new entrant on an intra-Community route where it operates less than four daily rotations on the route (instead of two as now);
 - allow an airline to be classified as a new entrant on a non-Community route where it operates less than two daily rotations on the route;
 - remove the automatic classification as a new entrant for carriers that have less than 5 slots at an airport, and the priority given to carriers that meet this criteria as well as the other criteria; and
 - replace the limitation on an air carrier being considered a new entrant if it has over 5% of the slots at the airport with a limit of 10% across the entire airline owning group (and possibly, also any joint venture partners).

Local guidelines

42. We have considered a number of respects in which the Regulation could allow more scope for local guidelines, for example to address environmental, noise or regional accessibility objectives. However, the Regulation already allows for local pollution and noise criteria to be taken into account by the coordinator if these are amongst the capacity parameters that apply to the airport, and therefore no amendment to the Regulation is necessary to achieve this. Whilst the Regulation could also allow for global environmental objectives (minimisation of greenhouse gas emissions) to be taken into account, measures such as the Emissions Trading Scheme are likely to be much more effective in achieving these objectives. More generally, we do not recommend allowing greater flexibility for local guidelines, because this increases the risk of interference with the process of slot allocation to favour particular airlines or types of flights.
43. Whilst local guidelines also would not be an effective way of meeting regional accessibility objectives, regional accessibility is a significant issue at some airports, such as Heathrow. Two options could be pursued to address this:
- Governments could be permitted to reserve capacity at airports for regional services. This would be similar to the position before the 2004 amendment to the Regulation.
 - Regional authorities could be permitted to buy slots on the secondary market for specific routes, enabling them to achieve flights from congested hubs to regional

airports whilst covering the congestion costs of doing so.

44. Neither of these solutions would be consistent with the objective of ensuring economically efficient use of capacity, but they would be the only way of meeting the objective of ensuring regional accessibility is maintained, and therefore it is essentially a political judgement as to whether this is appropriate.

Slot utilisation

45. In order to ensure that capacity is fully utilised at the most congested airports, we recommend that the utilisation threshold should be increased to 85%. We also evaluated increasing this to 90%, but we do not recommend this, as this would lead to withdrawals of some series of slots for reasons outside airlines' direct control. However, the benefits from increasing the utilisation threshold are relatively small, as there are few series of slots which come close to the 80% threshold; our analysis indicates that low utilisation of slots, where this occurs, primarily results from a small proportion of series not being used at all. Some of the other proposals we have made, including the clarification that slot reservation fees are not inconsistent with the Regulation and that penalties be introduced for late handback, and the proposed improvements to Article 14, would also help to improve slot utilisation.
46. Any increase in the utilisation threshold would need to be accompanied by:
- an increase in the minimum length of a slot series, to ensure that short series were not withdrawn as a result of a cancellation of one flight; and
 - clarification of the circumstances under which coordinators may allow 'fill in' of gaps in series of slots, for example where a slot is returned before the slot return deadline due to a public holiday.
47. Even if it is decided not to increase the utilisation threshold, the circumstances under which 'fill in' of gaps in series should be clarified, because this is unclear in the current Regulation and is one of the main areas of differences of opinion between coordinators.
48. We also recommend that the minimum series length should be extended to 15 slots for the summer season and 10 slots for the winter season, but as it can be appropriate to have shorter series lengths at some airports, the Regulation should specify that airport coordination committees may adopt a lower minimum. Our analysis indicates that extending the minimum length of a series of slots would have more significant benefits than increasing the slot utilisation threshold.
49. We have also identified that some coordinators do not monitor utilisation of each series of slots and withdraw the series if utilisation was below 80%, as required by the Regulation. We recommend that the Commission should monitor this and where appropriate use its powers to encourage them to do so.

Summary of how recommendations address identified problems

50. As discussed above, whilst we have identified a number of issues with the operation of the Regulation, there is no individual severe problem; as a result, we propose a number of (mostly relatively minor) changes to address the issues identified, rather

than one major change. The table below summarises how the recommendations of the study map against the issues that have been identified with the operation of the Regulation.

SUMMARY OF ISSUES IDENTIFIED AND RECOMMENDATIONS

Category	Issue identified	Recommendations
Operation of coordinator	Some aspects of how coordinators structured could be interpreted to limit the independence of the coordinator	Require organisational rather than functional separation of the coordinators from interested parties. Require that funding of coordinators be shared between airlines and airports Commission should use powers to encourage States to comply with existing obligations
	The extent to which information is publicly available on capacity parameters, slot availability and allocation, and local rules varies	Require all coordinators to publish online capacity parameters and local rules; at start of every season, summary of slot requests and allocations (by hour); and at end of every season utilisation by airline; and to produce and publish an annual report
	Non-availability of historical data limits scope for investigations of slot market by regulatory authorities	Require coordinators to keep data on slot allocations and requests for at least 5 years
	Coordinators can face financial problems if main contributing airline also does	Require that funding of coordinators be shared between airlines and airports States to have ultimate obligation to ensure coordinator adequately funded
	Late handback of slots continues to be an issue at some airports, leading to under-utilisation of scarce capacity	Regulation should require penalties are available for late handback and make clear that slot reservation fees are not incompatible with the Regulation if they are revenue neutral
Slot misuse and abuse	Ex ante monitoring of consistency between flight plans and slots does not happen in all States	Clarify that the coordinator should provide information on cleared airport slots to the air traffic management authorities if requested, and a flight plan should only be rejected after consultation with the coordinator
	Some States have not introduced sanctions as required by Article 14	Commission should use powers to encourage States to comply with existing obligations
	Slot monitoring and enforcement could be more effective	Article 14 to be amended to clarify and extend coordinators' powers and scope of enforcement
	In some States imposition of penalties is slow and distant from coordinator	Coordinator to be informed of the outcome of each case referred to national authorities
Business aviation	It is difficult for business aviation to obtain slots at congested airports	No change – would not be consistent with efficient use of constrained capacity, and Member States already have other options by which they can reserve capacity for business/general aviation
Slot allocation	At some congested airports administrative mechanism has led to inefficient allocation, as scarce capacity is used for flights with small aircraft	Regulation should clarify that secondary trading through slot transfers may take place at all EU airports Allow auctions for newly created slots
	Secondary trading not transparent,	Explicit authorisation for secondary trading

	particularly at non-London airports	<p>facilitates improved transparency</p> <p>Require airlines to disclose transfers to coordinator and coordinator to publish list each season</p> <p>Coordinators to establish bulletin board on which airlines can advertise willingness to trade</p>
	Competition authorities concerned secondary trading could increase concentration	<p>Prohibit anti-competitive restrictive covenants</p> <p>Require airlines to disclose transfers to coordinator and coordinator to publish list each season</p> <p>Coordinators to establish bulletin board on which airlines can advertise willingness to trade</p>
Local guidelines	Some stakeholders believe that there should be more flexibility for local guidelines	No change – Regulation sufficiently clear. More flexibility would increase risk of non-neutral/discriminatory slot allocation.
New entrant rule	New entrant rule leads to fragmentation of schedule and is not appropriate where there are a large number of slots to allocate (if capacity expanded)	<p>Revise new entrant rule to allow slots to be allocated to carriers with larger holdings</p> <p>Allow auctions for newly created slots</p>
	Even at some congested airports such as London Gatwick, utilisation is still low	<p>Increase utilisation threshold to 85%</p> <p>Introduce penalties for late handback and clarify that slot reservation fees permitted</p> <p>Introduce secondary trading at all EU airports</p>
Utilisation and 80-20 rule	Different interpretations between coordinators on when 'fill in' of gaps in series permitted	Regulation to state (and limit) when fill in permitted
	Some coordinators do not properly enforce current requirements	Commission should monitor and use powers to encourage States and coordinators to comply with existing obligations
	Short series of slots in peak summer can block capacity year-round	Extend minimum length of a series of slots to 15 (summer) and 10 (winter). Allow exceptions by local rules.

51. The proposed changes address most of the issues with the Regulation. The issues that are not addressed are the issues of access for regional service and business aviation. These are not addressed because, at capacity constrained airports, there is no way of achieving this access without displacing other flights that are a more economically efficient use of scarce capacity. The only way to provide this access whilst not displacing other flights would be to increase capacity.

1. INTRODUCTION

Background

- 1.1 Many of Europe's airports are capacity constrained. There have been significant reductions in traffic as a result of the global financial crisis, which has reduced congestion at many airports, but in the medium term demand is expected to recover and traffic is already starting to increase again. Some of Europe's busiest airports including Frankfurt, Amsterdam Schiphol and Madrid Barajas plan to increase capacity and may be able to accommodate some or all of this increase without worsening congestion, but many others including London Heathrow and Paris Orly do not plan to increase capacity. Therefore, at least at some airports, the problem of capacity constraints is likely to worsen.
- 1.2 Regulation (EEC) 95/93 established an administrative mechanism for the allocation of capacity at congested airports. The Regulation seeks to ensure non-discriminatory and transparent procedures for slot allocation, and is largely based on the International Air Transport Association (IATA) World Scheduling Guidelines. Member States designate congested airports as co-ordinated, and slot co-ordinators at each of these airports seek to balance the demand for slots with the supply. Where there is excess demand, the co-ordinators allocate slots on the basis of a series of criteria, in particular including historic preference ('grandfather rights'); where slots become available, in order to promote competition, preference is given to new entrants.
- 1.3 The Regulation was modified by Regulation (EC) 793/2004, which made a number of improvements, for example, to the processes for monitoring the correct use of slots and to the independent operation of the co-ordinator; it also introduced sanctions for abuse of slots. In addition, the 'use-it-or-lose-it' rule, which requires that a series of slots must be used 80% of the time to retain grandfather rights (except in certain defined specific circumstances) has been suspended on several occasions, most recently in summer 2009 as a result of the global financial crisis.

The need for this study

- 1.4 The Commission issued Communications in 2007 and 2008³ which set out a number of other issues with the operation of the Regulation. The key issues identified included:
- The Regulation requires coordinators to be independent but there had been some complaints that not all were sufficiently independent.
 - The Regulation requires that 50% of slots be allocated to new entrants, but it is not clear whether this has been successful at mitigating barriers to entry.
 - The Regulation requires slot coordinators to make data available to interested parties, but it is not clear whether there is sufficient transparency.
 - The Regulation allows for local guidelines, but the scope of these is limited as the Regulation is relatively prescriptive.

³ COM(2007) 704 final; and COM(2008) 227 final

- Secondary trading in slots occurs at the London airports, and there is some evidence of this occurring at other airports, but the Regulation is unclear as to whether it is permitted. The 2008 Communication stated that the Commission would not pursue infringement proceedings against States in which this occurred provided it was in a transparent manner.
- The Regulation allows for a flight plan to be rejected if the air carrier does not have an airport slot, but this reconciliation rarely takes place.

1.5 In addition, the introduction of the Single European Sky II package of reforms to the European air traffic management system may lead to some changes being required to the slot Regulation, to ensure consistency. Airports are a key element of the air transport network and therefore need to be integrated in it to ensure that improved performance can be delivered on a gate-to-gate basis.

1.6 The purpose of this study is to undertake an impact assessment for a range of options which would amend the Regulation. In order to do this, it is necessary to undertake a thorough evaluation of the current operation of the Regulation.

This report

1.7 This report is the Final Report for the study. It takes into account the Commission's comments on the Intermediate and Draft Final Reports.

1.8 Some information has been redacted from this report where it was provided by stakeholders on the condition that it would not be published.

Structure of this report

1.9 The rest of this report is structured as follows:

- Section 2 summarises the approach;
- Section 3 summarises current and expected demand for slots, and current and planned capacity, at the sample of airports analysed;
- Section 4 describes the system of slot coordination at the sample airports;
- Section 5 summarises the operational results of the slot coordination system;
- Section 6 sets out relevant experience from the US, in particular relating to the proposed introduction of slot auctions;
- Section 7 provides a review of legal issues with the current Regulation and which arise with possible options for revisions;
- Section 8 summarises the results of the open stakeholder consultation;
- Section 9 defines the options to be evaluated in more detail;
- Section 10 sets out the impact assessment of the options for reform to the Regulation, other than market mechanisms;
- Section 11 sets out the impact assessment of the options relating to market mechanisms for slot allocation; and
- Section 12 provides a summary of the impact assessment, and recommendations.

1.10 The following information is provided as appendices:

- Appendix 1 describes the baseline scenario, against which the options for reform of the Regulation have been evaluated;
- Appendix 2 describes the methodology and process for the quantified impact assessment;
- Appendix 3 provides various other additional operational data requested by the Commission;
- Appendix 4 provides the administrative cost and burden calculation;
- Appendix 5 is a glossary.

1.11 The appendices are provided as a separate document.

2. SUMMARY OF APPROACH

Introduction

2.1 This section provides a summary of the research approach, including:

- an overview of the approach;
- the rationale for the selection of the study sample;
- data received from stakeholders; and
- the stakeholders approached for the study.

Overview

2.2 The approach was divided into three main parts:

- **Analysis of the current situation:** The objective of this part of the project was to evaluate how the Regulation is currently operating. This phase of the project included data collection and analysis, and bilateral interviews with a sample of key stakeholders. These interviews focused on the current operation of the Regulation, but we also discussed options for revisions. The results of this analysis are set out in sections 3-5.
- **Stakeholder consultation:** In addition to the bilateral interviews with a sample of key stakeholders, there was an open public consultation via the Commission's website, and a workshop at which a wide range of stakeholders were represented, and the results of this are set out in section 8. The open consultation focused on options for revision to the Regulation.
- **Impact assessment:** On the basis of the analysis of the current situation and the stakeholder consultation responses, we have undertaken a qualitative and quantitative impact assessment of a number of options, agreed with the Commission, for revisions to the Regulation. These include relatively modest changes to improve the operation of the Regulation, such as changes to the requirements on independence of the coordinator, and more radical options, such as the introduction of market mechanisms. The options are defined in section 9 and the results of the impact assessment are set out in sections 10-12.

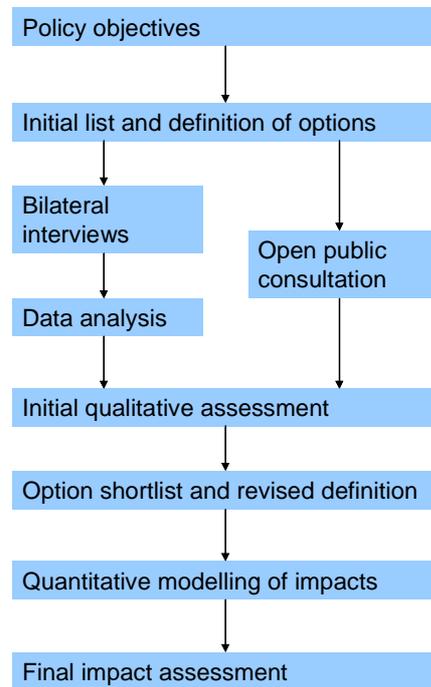
2.3 In addition, an independent legal analysis was undertaken of issues with the current Regulation, and (where relevant) legal issues raised by the options for revising it. The results of this analysis are set out in section 7.

2.4 Figure 2.1 provides an overview of the approach for the study. Policy objectives were agreed and an initial list of policy options was provided by the Commission. These formed the basis for the open public consultation, and were also discussed with stakeholders in bilateral interviews. Bilateral interviews were also used to discuss the current operation of the Regulation and to collect data, which was used for detailed analysis of the current operation of the Regulation and the impacts that it has had.

2.5 On the basis of the public consultation, the bilateral interviews and the data analysis, an initial (largely qualitative) evaluation of the policy options was undertaken. As a result of this some options were added or revised, and some options were not progressed further where it was agreed that they were unlikely to contribute towards achieving the policy objectives. Further analysis, including quantitative modelling,

was then undertaken of the shortlisted options. On the basis of this we have made recommendations for where the Regulation should be revised.

FIGURE 2.1 OVERVIEW OF APPROACH



- 2.6 A detailed description of the quantitative modelling undertaken for the impact assessment is provided in appendix 2.

Selection of study sample

- 2.7 There are 88 fully coordinated airports located in the States in which the Regulation applies (the EEA Member States plus Switzerland). Of these airports, 62 are coordinated year-round, and 26 are coordinated seasonally. These airports include some at which demand substantially exceeds capacity at all times, such as London Heathrow and Paris Orly, but others at which demand does not significantly exceed capacity.
- 2.8 18 States have at least one coordinated airport and therefore must appoint a coordinator. Of these, two have chosen not to create their own coordinator: airports in Iceland are coordinated by Airport Coordination Denmark and airports in Ireland by the UK coordinator ACL, and therefore in total there are 16 coordinators. The other 12 EU Member States currently do not have any coordinated airports.
- 2.9 Given limited timescale and resources for the study, a sample of these airports and coordinators had to be selected for analysis. 15 airports were selected for the study and of these a sub-set of six were selected for quantified modelling. This section summarises how both were selected.

Selection of study sample

- 2.10 Table 2.1 shows the criteria under which each of the 15 airports were selected. All of

these airports are fully coordinated throughout the year, and all have over 20 million passengers per year and/or experience significant congestion.

2.11 The sample was selected to include all European airports with over 20 million annual passengers (in 2009) with the exception of Barcelona. The reason Barcelona was excluded was that the sample already includes two other airports in Spain, where both the airport management company and slot co-ordinator is AENA (Madrid Barajas and Palma de Mallorca). In our view these airports were more useful to study than Barcelona, as they are both good examples of particular sets of circumstances which can affect airports:

- Madrid is an (almost unique) example of what was a very congested large European hub airport but at which substantial new capacity has been provided recently; and
- Palma de Mallorca has strongly seasonal traffic that is congested during summer holiday periods but not at other times.

TABLE 2.1 AIRPORT SELECTION CRITERIA

State	Airport	Fully coordinated all year?	20 million or more passengers?	Congested?
Austria	Vienna	✓		✓
France	Paris CDG	✓	✓	✓
	Paris Orly	✓	✓	✓
Germany	Düsseldorf	✓		✓
	Frankfurt	✓	✓	✓
	Munich	✓	✓	
Ireland	Dublin	✓	✓	
Italy	Milan Linate	✓		✓
	Rome Fiumicino	✓	✓	✓
Netherlands	Amsterdam Schiphol	✓	✓	✓
Spain	Madrid Barajas	✓	✓	✓
	Palma de Mallorca	✓	✓	✓
Sweden	Stockholm Bromma	✓		✓
United Kingdom	London Gatwick	✓	✓	✓
	London Heathrow	✓	✓	✓

2.12 We also contacted the Port Authority of New York and New Jersey (operator of five airports in and around New York), to discuss experience of slot trading in the US and the proposal to introduce auctions. Manchester Airport requested to make a direct submission to the study team; and the Swiss coordinator was interviewed specifically on the issue of slot allocation to business aviation at Geneva airport. A number of

other airport representatives responded to the open public consultation (summarised in section 8).

Selection of sample airports for quantified modelling

2.13 From the main sample of 15 airports, six airports were selected for quantified modelling. The selection of these airports took into account the following criteria:

- Where possible, the most congested airports were selected, as options for revisions to the Regulation would have most impact at these airports, but some airports with more limited congestion had to be included, in order to enable extrapolation of the results to other EU airports.
- As discussed below, the scope and quality of the data we received varied significantly between the airports. The selection has focussed as far as possible on airports at which better data was provided.

2.14 A summary of both the data available, and the characteristics, of the 15 airports in the sample is given in Table 2.2 below.

TABLE 2.2 CRITERIA FOR SELECTION OF AIRPORTS FOR QUANTIFIED MODELLING

Airport	Data available	Airport characteristics	Capacity plans
Amsterdam Schiphol	Significant limitations	Major hub. Demand exceeds capacity for short periods only.	Increase in movements expected to be permitted
Dublin	Complete	Secondary hub. Minimal capacity constraints at present.	Increase in terminal and runway capacity
Düsseldorf	Some limitations	Secondary hub. Demand exceeds capacity through most of the day.	Increase in movements expected to be permitted
Frankfurt	Some limitations	Major hub. Demand exceeds capacity throughout the day.	Major expansion – new runway and terminal
London Gatwick	Complete	Secondary hub. Demand exceeds capacity throughout the day.	Small increase in movements
London Heathrow	Complete	Major hub. Demand exceeds capacity throughout the day.	No increase in movements
Madrid	Complete	Major hub. Demand exceeds capacity for parts of day only	Increase in movements expected to be permitted
Milan Linate	Some limitations	City centre airport. Demand exceeds capacity (Bersani Decree)	No increase in movements
Munich	Some limitations	Secondary hub. Demand exceeds capacity for parts of day only	Limited expansion planned
Palma de Mallorca	Complete	Leisure-orientated airport and secondary hub. Demand exceeds capacity certain days only.	Increase in capacity and movements expected to be permitted
Paris CDG	Some limitations	Major hub. Demand exceeds capacity for parts of day only	Increase in movements expected to be permitted
Paris Orly	Some limitations	Secondary hub. Demand exceeds capacity (annual slot cap)	No increase in movements
Rome Fiumicino	Some limitations	Major hub. Demand exceeds	Increase in movements

Airport	Data available	Airport characteristics	Capacity plans
		capacity for parts of day only	expected to be permitted
Stockholm Bromma	Very limited	City centre airport. Demand does not exceed capacity.	No increase in movements
Vienna	Complete	Secondary hub. Demand exceeds capacity for part of day.	Increase in terminal capacity and possibly also movements.

2.15 Where full data is available, there is more scope to calculate the impacts of options; if other airports are used, this has to rely more on assumptions and extrapolation. The airports for which the most complete data was received were:

- Dublin;
- London Heathrow;
- London Gatwick;
- Vienna;
- Madrid; and
- Palma de Mallorca.

2.16 Although there would have been some logic to selecting these as the airports, they are not representative:

- Heathrow and Gatwick already have secondary trading in slots, and therefore options related to market mechanisms would have less impact than elsewhere; and
- Palma de Mallorca and Dublin have only limited congestion, and therefore the policy options would have limited impacts at these airports.

2.17 It was also important that the impact assessment covered some of the most congested airports other than Heathrow and Gatwick. The other EU airports at which demand currently exceeds capacity throughout the day are:

- Düsseldorf;
- Frankfurt;
- Milan Linate; and
- Paris Orly.

2.18 In addition, as discussed below, it appears likely that demand will exceed capacity throughout the day at Paris CDG by the end of the period.

2.19 Two of these would not have been appropriate to select:

- Frankfurt airport is in the process of implementing a major expansion including a new runway and terminal. After this is complete, demand will no longer exceed capacity and therefore options for revisions to the Regulation would have more limited impact at Frankfurt.
- Slot allocation at Milan Linate airport is constrained by a traffic distribution rule (discussed in section 4 below). Unless this was revised or revoked, many of the options for revisions to the slot Regulation would have little impact. In addition, the data we had for Linate was less extensive than some other airports.

2.20 Therefore, Paris Orly and Düsseldorf were modelled, in place of Dublin and Palma de Mallorca. However, particularly for Düsseldorf, there had to be greater reliance on assumptions to estimate the impact of some of the options. In particular we did not have disaggregated slot utilisation data for Düsseldorf, and therefore the evaluation of options relating to this have relied more on extrapolation from the other airports; and the slot request and allocation data for Düsseldorf was only available as totals per airline per season. Whilst Paris CDG could have been selected, for much of the impact assessment period impacts would have been similar to those at Madrid, which we had better data for.

2.21 The sample was therefore:

- Düsseldorf;
- London Heathrow;
- London Gatwick;
- Madrid;
- Paris Orly; and
- Vienna.

Case study of expansion of an airport

2.22 One of the policy options evaluated for the study relates to a situation where capacity is expanded (auctions of newly created slots), and another (revisions to the new entrant rule) would have most impact when capacity was expanded. Therefore, a case study of expansion of a congested airport also had to be selected.

2.23 The case study used was the possible implementation of mixed mode at Heathrow. This would expand capacity by 10% but demand would still exceed capacity all day, and therefore the mechanism used to allocate the new capacity would have the strongest impact. Although it is not currently planned to implement mixed mode, it could be implemented within a short timeframe if a political decision was made, and therefore there is still a reasonable chance that this might happen within the period covered by the impact assessment.

2.24 Frankfurt would have been an alternative choice, as amongst the most congested sample airports it is the only one to plan significant expansion. However, as mentioned above and discussed in more detail in section 3 below, the planned expansion at Frankfurt is so great that, at least in the first few years, we estimate capacity should be sufficient to accommodate demand all day. If this is right, there would not be a significant impact from either the use of an auction for allocation of the new capacity, or revision to the new entrant rule, as there would be sufficient capacity to accommodate almost all demand. This is similar to what happened at Madrid when capacity at the airport was expanded in 2005-6.

Data received from stakeholders

2.25 Some data was received for all of the sample airports, but the scope varied significantly, and in particular only very limited data was provided for Stockholm Bromma: Airport Coordination Sweden could only provide very limited total slot data,

and the airport managing body (Swedavia) stated that it would only respond to the public consultation, and therefore did not provide any of the data we requested.

Coordinator data

- 2.26 Although all coordinators were able to provide some data on slot requests and allocation, the scope of this varied significantly, partly as a result of the different systems that coordinators use. Some coordinators were able to provide full listings of slot series in spreadsheet format, which allowed slot requests and allocations to be viewed at the level of an individual series, and analysis to be produced by season, carrier, week, day and (if necessary) hour. The other coordinators provided most data at a total airline level. In addition, we requested data covering five years (five summer and five winter seasons) but most coordinators were not able to provide such a long time period.
- 2.27 More detail on the data provided by the coordinators is given in Table 2.3 below.

TABLE 2.3 DATA PROVIDED BY COORDINATORS

Member State	Coordinator	Airport	Capacity	Requests	Allocation	Total slots held by date	Utilisation	Withdrawal for insufficient usage
Austria	SCA (Schedule Coordination Austria)	Vienna	By hour, sample week W07-S10	By slot series W07-W10	By slot series W07-W10	By carrier S08 and S10	By slot series W07-S10	Season total W07-W09
France	COHOR (Association pour la Coordination des Horaires)	Paris CDG	By day and hour, peak week W08-S10	By reason and carrier Total by hour W08-S10	By reason and carrier Total by hour W08-S10	By carrier W07-S10	By slot series W08-W09	-
		Paris Orly	By day and hour, peak week W08-S10	Total by carrier W08-S10	Total by carrier W08-S10	By carrier, to SRD only S08-S10	By slot series W08-W09	-
Germany	FHKD (Airport Coordination Federal Republic of Germany)	Düsseldorf	Graph of daily/hourly capacity S10	By carrier and reason W09-S10	By carrier and reason W09-S10	By carrier S05-S10	-	By day W09
		Frankfurt	Graph of daily/hourly capacity S10	By carrier and reason W09-S10	By carrier and reason W09-S10	By carrier S05-S10	-	By day W09
		Munich	Graph of daily/hourly capacity S10	By carrier and reason W09-S10	By carrier and reason W09-S10	By carrier S05-S10	-	By day W09
Ireland	ACL (Airport Coordination Limited)	Dublin	By day and hour S06-W10	By slot series S06-W10	By slot series S06-W10	By carrier S08 and S10	By slot series W05-S10	-
Italy	ASSOCLEARANCE	Rome Fiumicino	By hour S09-W10	By slot series (but not reason) S08-W10	By slot series (but not reason) S08-W10	Season total S07-W10	Typical week average S10	-
		Milan Linate	By hour	By slot series	By slot series	Season total	Typical week	-

Member State	Coordinator	Airport	Capacity	Requests	Allocation	Total slots held by date	Utilisation	Withdrawal for insufficient usage
			S09-W10	(but not reason) S08-W10	(but not reason) S08-W10	S07-W10	average S10	
Netherlands	SACN (Airport Coordination Netherlands)	Amsterdam Schiphol	By day and hour S07-S10	Total by carrier S07-W10	Total by carrier S07-W10	Season total S05-W10	By carrier W09	-
Spain	AENA (Aeropuertos Españoles y Navegación Aérea)	Madrid Barajas	By hour W92-W10	By slot series S05-S10	By slot series S05-S10	Typical week total S08	By slot series S08-W09	Season total S08-W09
		Palma de Mallorca	By hour W92-W10	By slot series S05-S10	By slot series S05-S10	Typical week total S08	By slot series S08-W09	Season total S08-W09
Sweden	ACS (Airport Coordination Sweden)	Stockholm Bromma	-	Total W07-W10	Total by carrier W07-W10	-	-	-
United Kingdom	ACL (Airport Coordination Limited)	London Gatwick	By day and hour S04-W10	By slot series S06-W10	By slot series S06-W10	By carrier S08 and S10	By slot series W05-S10	Peak week total S05-W09
		London Heathrow	By hour S90-W09	By slot series S06-W10	By slot series S06-W10	By carrier S08 and S10	By slot series W05-S10	Peak week total S05-W09

2.28 Full details of slot trades and leases could only be provided by ACL; other coordinators did not provide this information, either because they did not permit trading or did not believe that such trades were taking place. The Austrian and German coordinators believed that limited trading was taking place, but were unable to provide details.

Data from other sources

2.29 We also requested:

- Traffic data from airports: Most airports were willing to provide traffic data but the level of disaggregation varied; most were not willing to provide a breakdown by route and airline (which could have been helpful to identify slots that were particularly inefficiently used)
- Traffic forecasts: We asked airports for traffic forecasts, to assess the extent to which capacity expansions were likely to be sufficient to accommodate demand, but most were not able to provide these, in some cases citing confidentiality.
- Airline route data: In order to model possible responses to market mechanisms for slot allocation, we asked airlines about which types of routes tended to make most contribution, and how this varied. No carriers were able to provide us with any figures, although most were able to give an indication of the types of operations which tended to be the most profitable.

Stakeholders interviewed for the study

2.30 This study includes a public consultation on possible revisions to the Regulation, which all stakeholders could respond to, and the results of this are set out in section 8. However, we also undertook a large number of bilateral meetings with selected stakeholders. The purpose of these meetings was:

- to collect data;
- to discuss in detail the current operation of the Regulation and issues with it (the public consultation is focussed primarily on revisions to the Regulation); and
- to provide an opportunity for more detailed discussion on changes to the Regulation than it is possible to obtain from written responses to the public consultation.

Interviews with airport managers

2.31 The airport managing companies were consulted through a mix of telephone and face-to-face interviews with the exception of Aéroport di Milano, which preferred to respond to our additional questions in writing. In most cases telephone interviews were preceded by written submissions; and after all interviews we sent written notes of the meeting to the participants in order to ensure that they agree with the record of what was said. Table 2.4 shows which interviews were undertaken.

TABLE 2.4 INTERVIEWS WITH AIRPORT MANAGING COMPANIES

Member State	Managing body	Airport	Interview type
Austria	Flughafen Wien	Vienna	Written submission and telephone interview
France	Aéroports de Paris	Paris CDG	Face-to-face interview

		Paris Orly	
Germany	Flughafen Düsseldorf	Düsseldorf	Written submission and telephone interview
	Fraport	Frankfurt	Written submission and face-to-face interview
	Flughafen München	Munich	Written submission and telephone interview
Ireland	Dublin Airport Authority	Dublin	Written submission and telephone interview
Italy	Aeroporti di Roma	Rome Fiumicino	Written submission and telephone interview
	SEA Aeroporti di Milano	Milan Linate	Written submission
Netherlands	Amsterdam-Schiphol Airport	Amsterdam Schiphol	Face-to-face interview
Spain	AENA (Aeropuertos Españoles y Navegación Aérea)	Madrid Barajas Palma de Mallorca	Face-to-face interview
Sweden	Swedavia	Stockholm Bromma	Responding via public consultation only
United Kingdom	Gatwick Airport	London Gatwick	Face-to-face interview
	BAA	London Heathrow	Face-to-face interview
	Manchester Airport Group	Manchester	Written submission and telephone interview

Interviews with airlines

2.32 We interviewed 15 airlines, including the five largest in the EU (in terms of passengers carried in 2009) and three US airlines; with the remaining carriers selected to ensure a representative mix between network, low cost and charter airlines serving congested airports. Table 2.5 shows the airlines selected, and their relevance to each of the criteria set out in our proposal. Carpatair was added to our original sample to represent a smaller regional carrier.

TABLE 2.5 AIRLINE SELECTION CRITERIA

State	Airline	Top 5 passenger numbers	Network	Low Cost	Charter	Case study hubs
France / Netherlands	Air France-KLM	✓	✓			Paris CDG Amsterdam Schiphol
Germany	Lufthansa	✓	✓			Frankfurt Munich
Ireland	Ryanair	✓			✓	Dublin Madrid Barajas
Spain	Iberia		✓			Madrid Barajas
Sweden	SAS		✓			-

United Kingdom	British Airways	✓	✓	London Heathrow London Gatwick
United Kingdom	easyJet	✓	✓	London Gatwick Madrid Barajas Paris CDG Paris Orly Rome Fiumicino
UK / Germany	Thomas Cook / Condor		✓	London Gatwick (Thomas Cook) Frankfurt (Condor)
United Kingdom	Virgin Atlantic		✓	London Gatwick London Heathrow
Non-EU	Singapore Airlines		✓	-
Romania	Carpatair			Regional airline
EU-wide	Netjets			Business airline
United States	American Airlines			
United States	Delta	Selected for experience of slot trading and proposed auctions in the US		
United States	United Airlines			

2.33 Again, the stakeholders were involved via a mix of written submissions, telephone and face-to-face interviews (Table 2.6 below). Note that Air France and KLM are listed separately, as each has its own slot experts which we interviewed individually.

TABLE 2.6 INTERVIEWS WITH AIRLINES

Member State	Airline	Interview type
France	Air France	Telephone interview
Germany	Lufthansa	Written submission and face-to-face interview
Ireland	Ryanair	Face-to-face interview
Netherlands	KLM	Written submission and face-to-face interview
Romania	Carpatair	Written submission and telephone interview
Spain	Iberia	Written submission and telephone interview
Sweden	SAS	Written submission and telephone interview
United Kingdom	British Airways	Written submission and face-to-face interview
	easyJet	Face-to-face interview
	Thomas Cook	Face-to-face interview
	Virgin Atlantic	Written submission and telephone interview
EU-wide	Netjets	Written submission and telephone interview
Non-EU	Singapore Airlines	Written submission and telephone interview

United States	American Airlines	Written submission and face-to-face interview
	Delta	Written submission and telephone interview
	United Airlines	Written submission and face-to-face interview

Interviews with coordinators

2.34 The selection of slot coordinators was determined by the choice of airports outlined above. We also met the European Union Airport Coordinators Association (EUACA) and interviewed the Swiss coordinator specifically to discuss the slot allocation system for business aviation at Geneva airport (Table 2.4).

TABLE 2.7 INTERVIEWS WITH COORDINATORS

Member State	Coordinator	Sample airports included	Interview type
Austria	SCA (Schedule Coordination Austria)	Vienna	Written submission and telephone interview
France	COHOR (Association pour la Coordination des Horaires)	Paris CDG Paris Orly	Written submission and face-to-face interview
Germany	FHKD (Airport Coordination Federal Republic of Germany)	Düsseldorf Frankfurt Munich	Written submission and face-to-face interview
Italy	ASSOCLEARANCE	Rome Fiumicino Milan Linate	Written submission and face-to-face interview
Netherlands	SACN (Airport Coordination Netherlands)	Amsterdam Schiphol	Written submission and face-to-face interview
Spain	AENA (Aeropuertos Españoles y Navegación Aérea)	Madrid Barajas Palma de Mallorca	Written submission and face-to-face interview
Sweden	ACS (Airport Coordination Sweden)	Stockholm Bromma	Written submission and telephone interview
Switzerland	Slot Coordination Switzerland	-	Written submission and telephone interview
United Kingdom / Ireland	ACL (Airport Coordination Limited)	London Gatwick London Heathrow Dublin	Written submission and face-to-face interview
EU-wide	EUACA (European Union Airport Coordinators Association)	-	Face-to-face interview

Interviews with other stakeholders

2.35 Some other stakeholders were approached for the study; these fall into three groups:

- Airline and airport associations;
- Regulatory authorities (including the US FAA); and
- Other parties that we expected might be interested.

2.36 The stakeholders approached are listed below. Some decided not to respond, as they could not generate interest among their members and/or felt that the issues were not relevant to them. The only stakeholder who did not respond at all is IAOPA.

TABLE 2.8 INTERVIEW STATUS: OTHER STAKEHOLDERS

Member State	Organisation	Interview type
Airline and airport associations		
EU	AEA (Association of European Airlines)	Written submission and face-to-face interview
EU	ERA (European Regions Airline Association)	Face-to-face interview
EU	ELFAA (European Low Fares Airline Association)	Face-to-face interview
International	IACA (International Air Carrier Association)	Written submission and face-to-face interview
International	IATA (International Air Transport Association)	Written submission and face-to-face interview
International	IAOPA (International Council of Aircraft Owner and Pilot Association)	Did not respond
EU	EBAA (European Business Aviation Association)	Face-to-face interview
EU	ACI (Airports Council International) Europe	Written submission and face-to-face interview
Regulatory authorities		
France	DGAC (Direction Générale de l'Aviation Civile)	Written submission
Germany	LBA (Luftfahrt-Bundesamt)	Chose not to participate
United Kingdom	CAA (Civil Aviation Authority)	Face-to-face interview
United Kingdom	DfT (Department for Transport)	
US	FAA (Federal Aviation Administration)	Written submission and telephone interview
Other interested parties		
EU-wide	ECTAA (European Travel Agents and Tour Operators Association)	Chose not to participate
EU-wide	EPF (European Passenger Federation)	Chose not to participate
EU-wide	ETF (European Transport Workers' Federation)	Chose not to participate

3. DEMAND AND CAPACITY AT THE SAMPLE AIRPORTS

Introduction

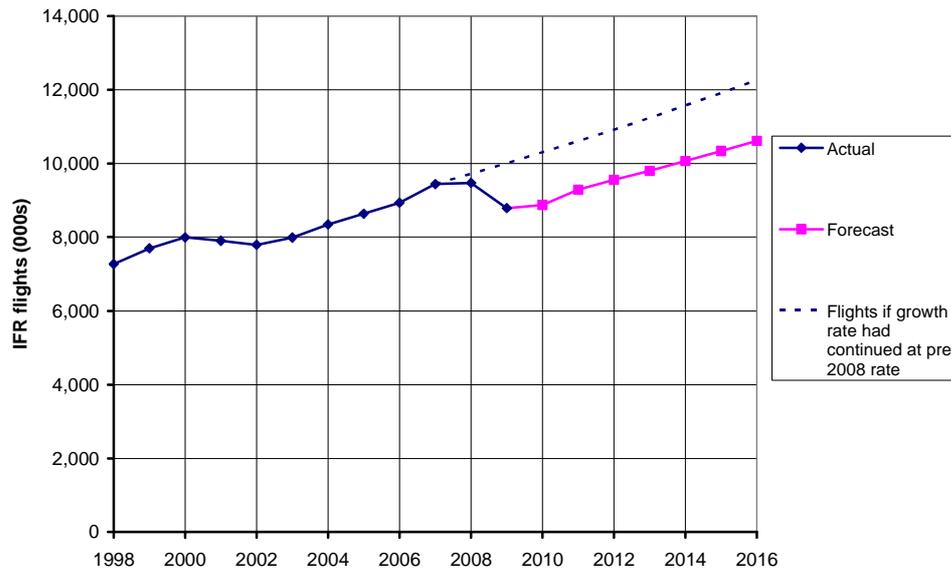
- 3.1 This section summarises demand for slots, and current and planned capacity, at the sample airports. It also sets out the level of congestion expected at each of the airports in the period covered by the impact assessment (2010-2025).

Evolution of the air transport market

Recent trends in demand

- 3.2 The Commission has previously studied options for revision of the slot Regulation (reports by NERA in 2004 and Mott Macdonald in 2006). However, since then, the air transport market in Europe has evolved. We start by summarising recent trends in demand, as this is key to the analysis of expected trends in airport congestion, and then discuss other changes in the market.
- 3.3 Up until 2007, there was strong traffic growth, but as discussed in more detail below, growth stalled during 2008 and traffic declined sharply in 2009. Traffic growth was uneven, however, with much stronger growth in the new Member States in central and eastern Europe than in the more mature markets in northern and western Europe. Significant expansion of high speed rail networks impacted traffic on a few specific routes such as Madrid-Barcelona but did not have a significant impact on overall traffic growth.
- 3.4 Capacity constraints have limited growth at some key airports, particularly London Heathrow, Frankfurt and Paris Orly. However, capacity was expanded at some other key European airports (most significantly Madrid in 2005/6) and, at the overall European level, airport capacity constraints did not become significantly worse during this period. As identified below, demand exceeds capacity for most or all of the day at six major European airports, one less than in 2004.
- 3.5 Figure 3.1 shows the trend in the number of flights in the EU27 States. The global financial crisis has caused a significant downturn in the demand for air transport. The number of flights in 2010 is projected to be 14% lower than it would have been if demand had continued to increase at the pre-2008 trend rate (2.9% per year). The downturn in traffic has been much sharper than the previous downturn, which occurred after 9/11.

FIGURE 3.1 TREND IN NUMBER OF FLIGHTS, EU27 STATES



Source: SDG analysis of EUROCONTROL STATFOR flight data and September 2010 Medium Term Traffic Forecast

- 3.6 At some EU airports, traffic has already started to increase again and, as shown above, the number of flights is expected to exceed 2008 levels by 2012. However, current forecasts indicate that traffic will not return to the pre-2008 trend. Almost five years' traffic growth has been lost as a result of the downturn.

Other changes in the European air transport market

- 3.7 There have been a number of other changes in the European air market. Since 2004, the most significant change has been the **increased market share of low cost carriers**, who have taken advantage of the liberalisation of intra-European air traffic to expand beyond their initial bases in the UK and Ireland. The unit costs of low cost carriers can be less than half of network carriers, although many network carriers have significantly cut costs in response.
- 3.8 Between 2003/4 and 2009/10, Ryanair's passenger numbers increased by 188% and easyJet's by 119%. Measured in terms of passenger numbers, Ryanair is now the largest European airline. In contrast, over the same period, Air France/KLM's passenger numbers increased by 18% and British Airways passenger numbers reduced by 11%. The relatively poor performance of the network carriers was driven by domestic and intra-European traffic: Air France/KLM's non-European traffic increased by 33%, and British Airways by 11%. The growth of the low cost carriers has also been partly at the expense of charter/leisure carriers.
- 3.9 The expansion of low cost airlines resulted in rapid growth at some secondary airports including Rome Ciampino, Girona, Brussels Charleroi, Stockholm Skavsta and Milan Bergamo. This has partly mitigated growth at some congested primary airports, although some of these secondary airports (notably Rome Ciampino) have now also become capacity-constrained. However, attempts to launch long haul low cost airlines

have generally not been successful and several became insolvent (for example Air Madrid and Air Comet).

3.10 Other significant developments in the European air transport market include:

- **Market opening:** Further to a 2002 ruling by the European Court of Justice, international aviation policy became a Community responsibility. The most significant impact of this to date has been the ‘Open Skies’ between the EU and US, which removed all restrictions on routes, frequencies and pricing for EU-US flights. In particular, this led to several US carriers offering direct services to/from London Heathrow airport for the first time, significantly increasing the demand for peak slots at this airport, but reducing the demand for slots at London Gatwick.
- **Consolidation of network airlines:** There has been continued consolidation of the network airlines. Lufthansa Group now owns a number of other airlines including Austrian, Swiss and BMI; and British Airways and Iberia have recently merged to form the International Airlines Group.
- **Price competition:** The growth in low cost carriers, and increased price transparency as a result of growing internet use, has led to stronger price competition between European airlines. This probably contributed to the insolvencies of some airlines, such as Flyglobespan and Sterling, which were not as cost-efficient as their competitors.
- **Consumer protection:** There have been several initiatives to ensure that increased price competition does not have a negative impact on consumers. In particular, Regulation 261/2004 introduced new rules on compensation and assistance to air passengers in the event of long delays, denied boarding and cancellations, and Regulation 1107/2006 introduced common rules for protection of passengers with reduced mobility.
- **Changes to passenger service offer:** As a result of price competition, network carriers reduced ‘frills’ particularly on short haul services, with several airlines withdrawing catering on short haul economy class, and a few airlines ceasing to offer business class products on short haul. Several network carriers, including recently Air France, have introduced ‘Premium Economy’ products on long haul routes, mid-way between the economy and business class products.
- **Single European Sky:** A series of Regulations introduced in 2004 paved the way for the Single European Sky, an ambitious initiative to reform the architecture of European air traffic control to meet future capacity and safety needs. This was extended with the Single European Sky II package in 2009. Key initiatives include the establishment of functional airspace blocks by 2012, and the setting of binding targets for economic, environmental, capacity and safety performance. Attempts to improve the cost efficiency of air traffic management have led to industrial relations disputes, particularly in France and Spain.

Capacity, slot demand and allocations at the sample airports

3.11 This section provides an overview of slot requests and allocation at each of the sample airports (other than Stockholm Bromma, for which no breakdown was provided), and the capacity currently available and planned. The information is shown for a representative week in the summer 2010 season; where data is also available for 2008 (before the traffic downturn) equivalent graphs are shown in appendix 3 for the summer 2008 season. We have sought to show this data in a consistent format, but in many cases the information we have been provided with by the coordinators does not

allow us to do this. For example, some coordinators provided data on hourly demand and capacity in picture format only (these are reproduced here); and in many cases we have been given allocated slots, but not initial requests, by hour.

3.12 At several airports, the number of allocated slots is slightly higher than the declared capacity in certain hours. This is because there can be some flexibility about capacity parameters: for example some airports can allow an additional arrival movement to be scheduled in an hour if there is one less departure, or one less arrival in the subsequent hour.

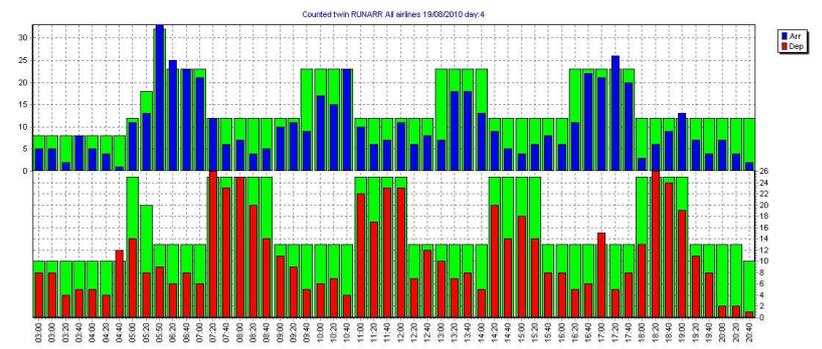
Amsterdam Schiphol

3.13 Although Amsterdam Schiphol airport has 5 runways, the useable capacity is lower than this would imply, as three of these runways are north-south which is the wrong direction given the prevailing westerly wind. There is also a limit on the number of runways that can be utilised at the same time and strict administrative limits on noise, which limit the number of movements permitted to approximately 26% less than the physical capacity of the infrastructure⁴. These limits, in effect, create an annual movement cap which is the main limit on capacity at the airport. In practice, however, there is currently enough capacity to accommodate demand throughout the day, with limited constraints in peak periods. There is also a quota on night movements, and demand for night movements exceeds the number permitted.

3.14 There have been discussions between the airport and other stakeholders regarding the current noise limits which it believes are not effective. It was agreed in to amend the limits and revised arrangements were introduced on an experimental basis for two years from November 2010; assuming this system works as expected, it will then become permanent. This will allow an increase in movements by using existing capacity more effectively: the number of flights permitted per year will increase to approximately 510,000, an increase of 10% on the current level. The limit of 510,000 will apply until 2020.

FIGURE 3.2 AMSTERDAM SCHIPHOL SLOT ALLOCATION⁵

S10 Arrivals and Departures:

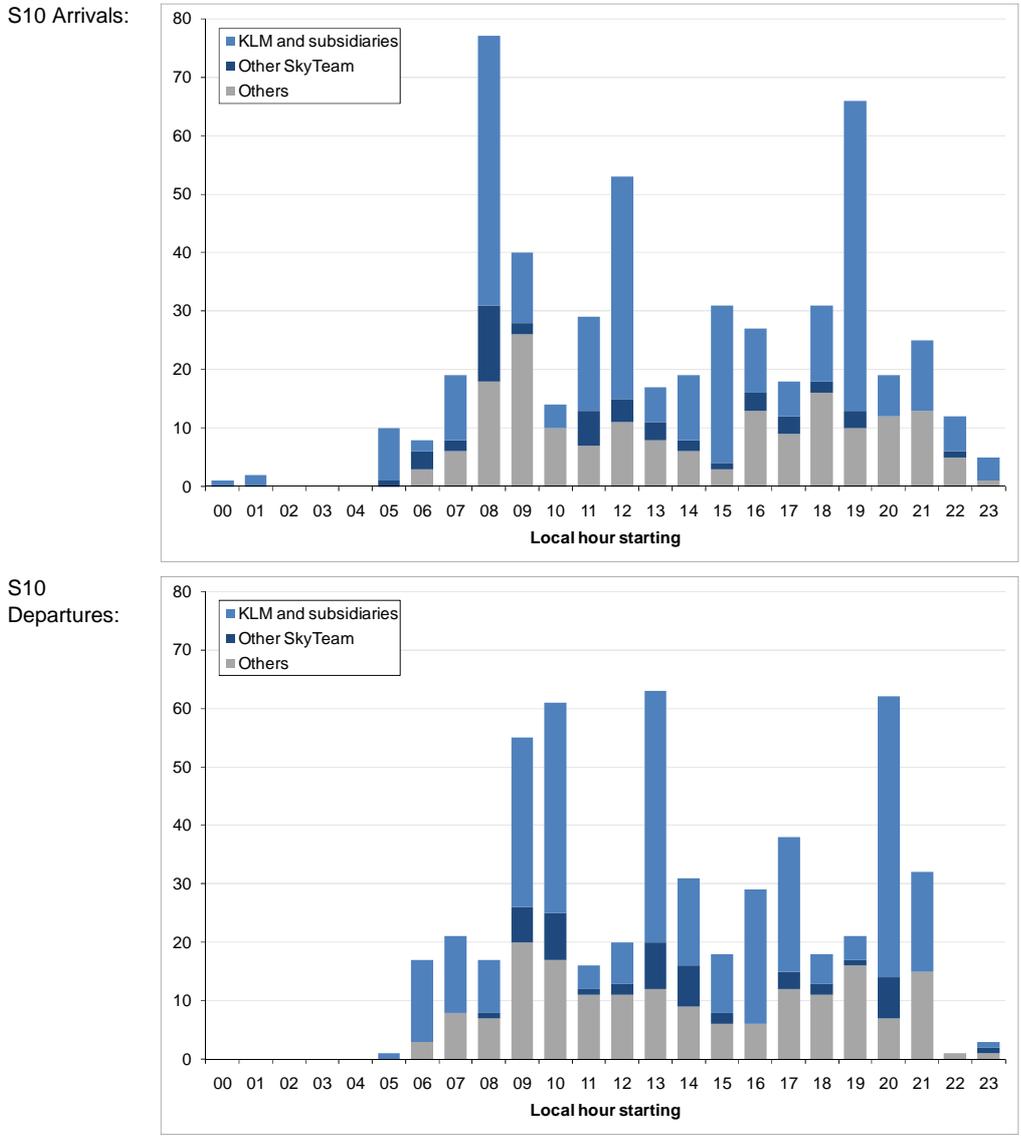


⁴ The physical capacity of infrastructure is 615,000 movements per year but the legal limit is approximately 463,000; traffic is currently 390,000 movements per year.

⁵ Hourly breakdown of requests not available.

3.15 The demand peaks at Schiphol are caused by the ‘wave’ system operated by KLM and its SkyTeam partners, with banks of arrivals and departures to maximise connection opportunities (shown Figure 3.3 below). Each of the arrival peaks is followed by a departure peak in the next hour, and there is some correlation between the ‘banks’ of KLM and its subsidiaries and those of its SkyTeam alliance partners.

FIGURE 3.3 AMSTERDAM SCHIPHOL HOURLY ARRIVALS AND DEPARTURES S10



Dublin

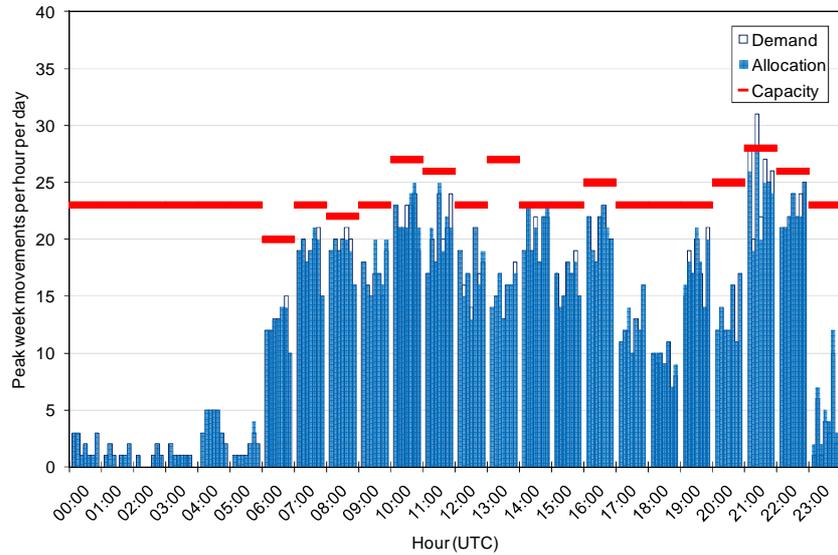
3.16 Dublin airport has a single runway. Demand slightly exceeds capacity for early morning departures, as this is the peak for low cost carrier departures, but capacity is sufficient to meet demand for slots throughout the rest of the day. Dublin airport has developed a new terminal, which opened in late 2010; when this is fully operational the only remaining constraint will be runway capacity.

3.17 The airport is planning to develop a second runway when required, although the downturn in demand following the global financial crisis means that this is not

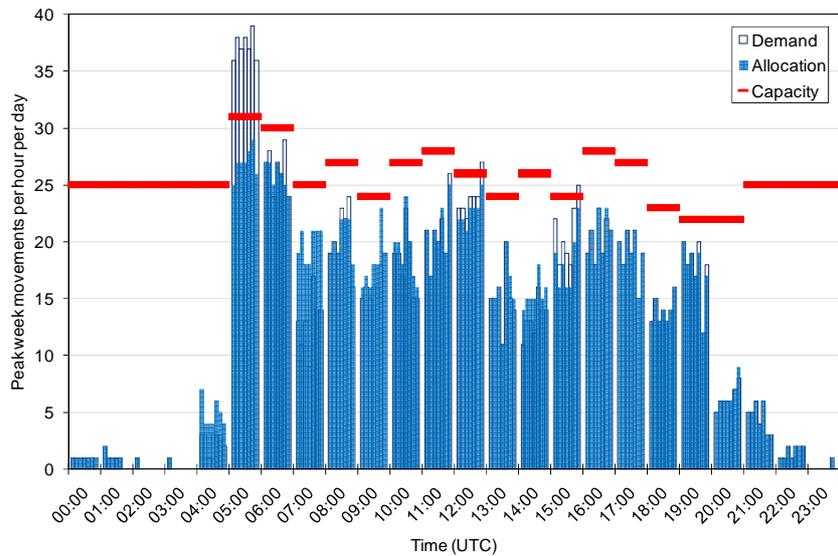
currently needed.

FIGURE 3.4 DUBLIN SLOT REQUESTS AND ALLOCATION

S10 Arrivals:



S10 Departures:

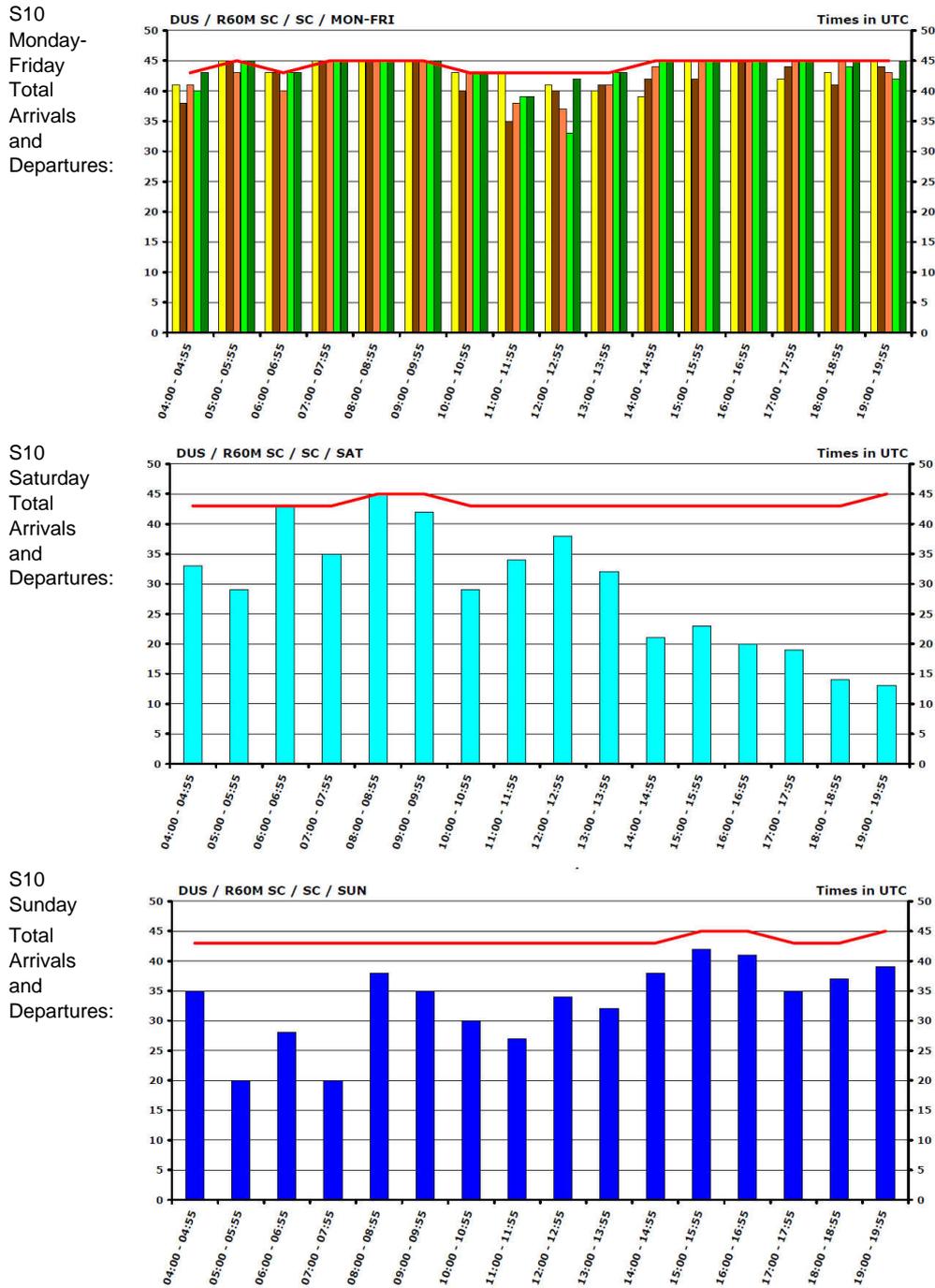


Düsseldorf

- 3.18 Düsseldorf airport has three passenger terminals and two parallel runways, although the runway separation is not sufficient for fully independent operation.
- 3.19 The airport is subject to stringent restrictions on hourly operations defined in its operating license. This limits capacity to 45 movements per hour through most of the day, plus two slots per hour for business aviation, around 25% less than the technical capacity of the airport (56 movements per hour). As a result, the useable capacity of the airport is significantly less than demand through most of the day, although there is spare capacity at weekends.
- 3.20 The airport expects that the operating license will be amended during the period covered by the impact assessment (up to 2025), but it is not clear when this will occur

or the extent of the increase in capacity that will be permitted.

FIGURE 3.5 DÜSSELDORF SLOT ALLOCATION⁶



Frankfurt

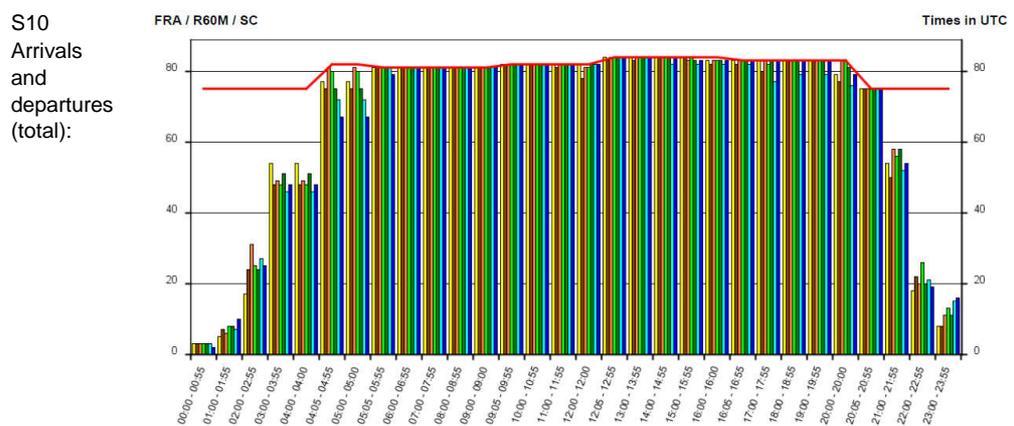
3.21 Frankfurt airport has three runways and two passenger terminals. Demand for slots

⁶ Hourly breakdown of requests, and hourly separation of allocation into arrivals and departures, not available. The colour coding on the graphs provided by the German coordinator relates to the days of the week.

exceeds capacity throughout the day. At present, the main capacity constraint is the runway system but there are also some apron and ground handling constraints which have an impact on performance. At present the airport has a capacity of 83 movements per hour but demand for up to 100 movements per hour.

- 3.22 A fourth runway is under construction and will open in November 2011. This will initially increase capacity to 91 movements per hour, but traffic volumes will then be limited by the capacity of the terminals. In order to address this, a new pier is under construction and will open by winter 2012, and the airport also has permission to construct a third terminal. When the third terminal is complete (expected to be around 2015), airport capacity will increase to 126 movements per hour, an increase of more than 50% on the current level.

FIGURE 3.6 FRANKFURT SLOT ALLOCATION⁷



London Gatwick

- 3.23 London Gatwick is a single runway airport with two passenger terminals. In the summer, demand exceeds capacity through most of the day, although some slots are available through the pool in the afternoons and evenings. Demand is seasonal; slots are available in the winter season. Demand is particularly strong for early morning departure slots. The main capacity restriction is the runway although at peak times there are also terminal and stand capacity constraints. The coordinator considers that runway capacity accounts for 90% of the capacity restriction at Gatwick.
- 3.24 A planning agreement prevents construction of a second runway at Gatwick before 2019, and in any case the UK government will not permit the construction of a second runway for the foreseeable future. Nonetheless, the airport is currently investing £280 million (€320 million) in additional terminal capacity and is undertaking initiatives to obtain a small increase in the number of movements per hour. It believes 2-3 additional slots per hour could be achieved by:

- reducing runway occupancy time for arriving flights by achieving more consistent

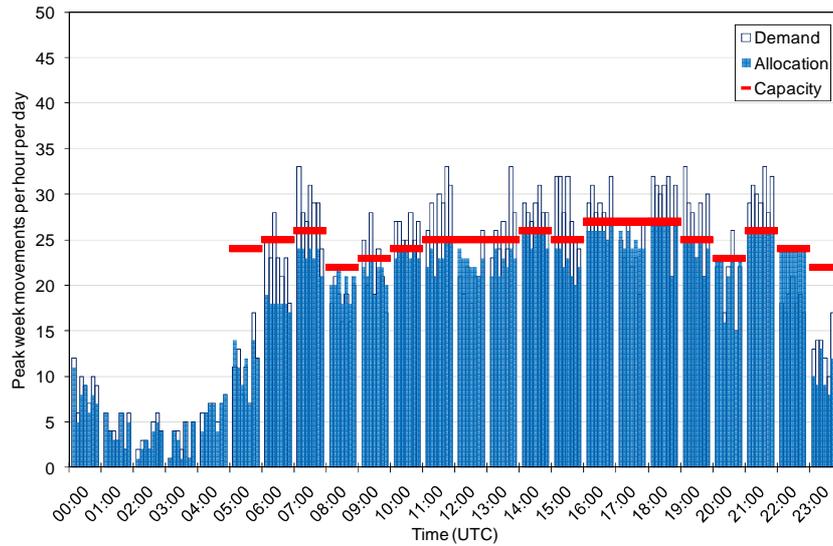
⁷ Hourly breakdown of requests, and hourly separation of allocation into arrivals and departures, not available. The colour coding on the graphs provided by the German coordinator relates to the days of the week.

performance between pilots; a reduction of 5-6 seconds would increase the number of slots available;

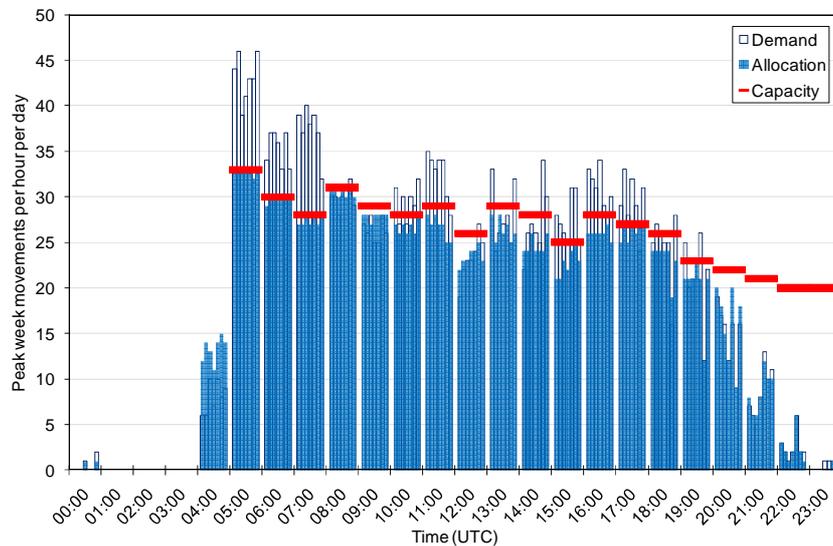
- Airport Collaborative Decision Making (ACDM) – sharing of information between all parties using the airport; and
- maximising efficient use of airspace through collaboration with NATS, the air navigation service provider, as airspace is also a constraint at present.

FIGURE 3.7 LONDON GATWICK SLOT REQUESTS AND ALLOCATION

S10
Arrivals:



S10
Departures :



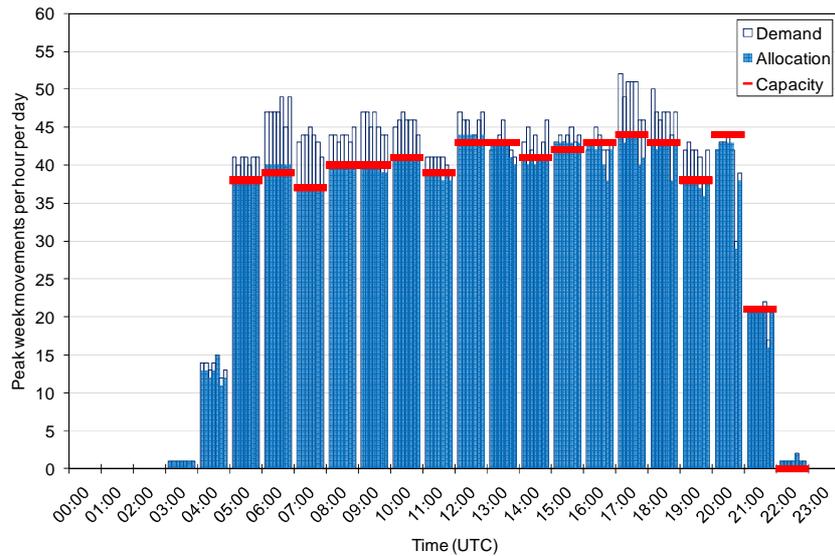
London Heathrow

3.25 London Heathrow has two wide spaced runways and currently has four passenger terminals in use. Demand exceeds capacity throughout the day but there is particularly strong demand for early morning arrivals, as these are the most appropriate times for long haul flights. As it is well known that slots are rarely available through the pool, it is likely that demand for slots is significantly higher than the number of slots airlines actually apply for.

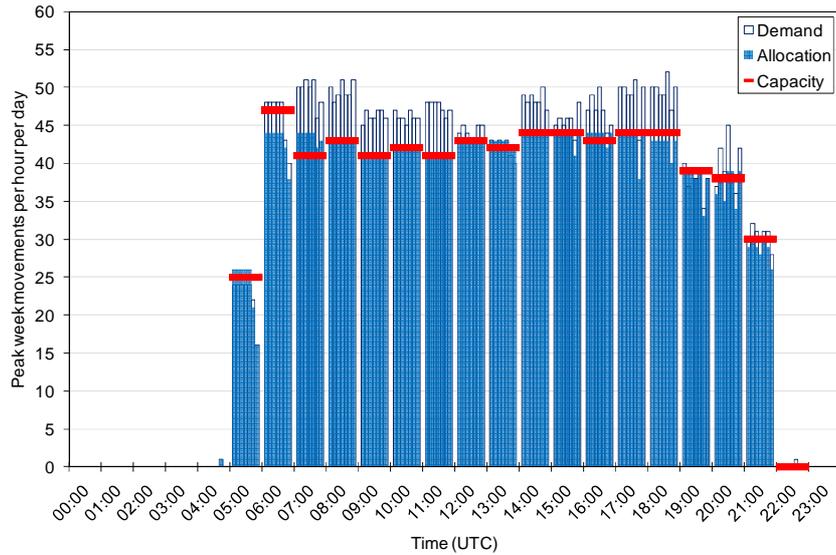
- 3.26 The main constraint is the capacity of the two runways but there are also constraints in terminal and stand capacity, partly due to the distribution of airlines between the terminals. In addition, there is an annual cap of 480,000 movements imposed as a condition for planning permission for terminal 5, which means that a small number of slots that are available in off-peak periods cannot be allocated. There is also a quota for night movements which means that the number of arrivals before 0600 is significantly below either runway capacity or demand. Noise is a particularly problematic issue at the airport as, due to the orientation of the runways and the prevailing winds, most approaching aircraft fly across the centre of London.
- 3.27 Terminal capacity at the airport was significantly expanded with the opening of terminal 5 in 2008. The airport is currently redeveloping terminals 1 and 2 and expects to achieve a similar increase in terminal capacity when this is complete. Increases in runway capacity could only be achieved through construction of a third runway or if permission is given for mixed mode operations; the UK government does not currently plan to permit either. However, mixed mode, which would increase runway capacity by 10%, could be implemented relatively quickly if it was approved, and therefore it is possible that it might occur within the period covered by the impact assessment.

FIGURE 3.8 LONDON HEATHROW SLOT REQUESTS AND ALLOCATION

S10
Arrivals:



S10
Departures
:



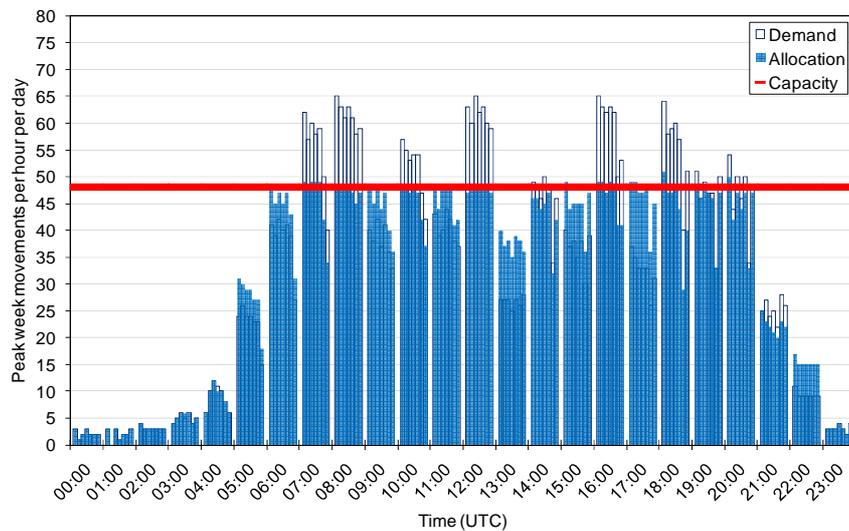
Madrid Barajas

3.28 Capacity at Madrid airport was expanded significantly in 2005-6, when two new runways and a new terminal were opened; the airport now has four runways and four terminals. Before the expansion, demand exceeded capacity throughout the day, and the airport was operating at significantly more than its design capacity: 43mppa (million passengers per annum), compared to a declared capacity of 35mppa. Whilst demand for slots is now close to capacity, and initial demand for slots exceeds capacity in some hours of the day, the coordinator informed us that there was sufficient capacity to meet most requests, albeit with some ‘smoothing’ being required.

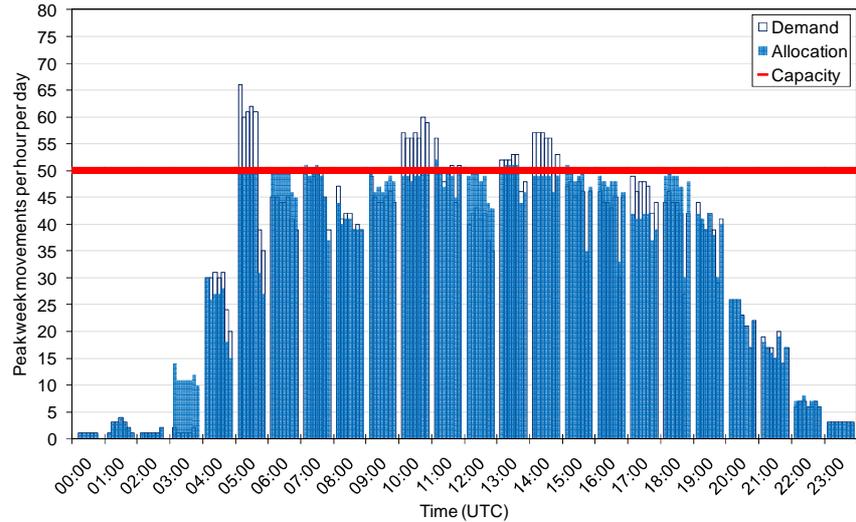
3.29 The airport informed us that with the current infrastructure but improvements to air traffic management capacity in the Madrid area, the capacity of the airport could be increased from 98 movements/hour to 120 movements/hour.

FIGURE 3.9 MADRID SLOT REQUESTS AND ALLOCATION

S10
Arrivals:



S10
Departures
:



Milan Linate

3.30 Milan Linate is subject to strict administrative limits on the number of movements and the routes and frequencies that can be operated, defined in a 2001 Decree (the 'Bersani Decree')⁸. This limits capacity far below both demand and the technical capacity of the airport:

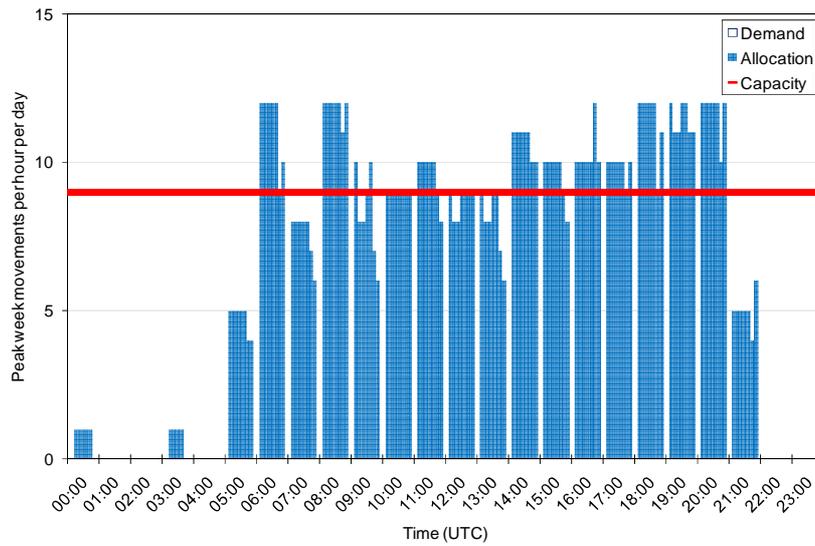
- there is a limit of 18 movements per hour (although we note that the number of allocated slots actually exceeds this limit in most hours);
- maximum frequencies to EU capital cities and other EU airports are defined on the basis of the volume of traffic in 1999 (for example, the Decree allows for no more than three daily services for each carrier to London and no more than two to Paris, although on the Rome route, the number of frequencies is in principle unrestricted); and
- only single-aisle aircraft are permitted.

3.31 There are currently no plans to increase capacity at Linate. However, since the capacity limit reflects an administrative limit rather than technical capacity, it could be changed at relatively short notice if a political decision was made to do so.

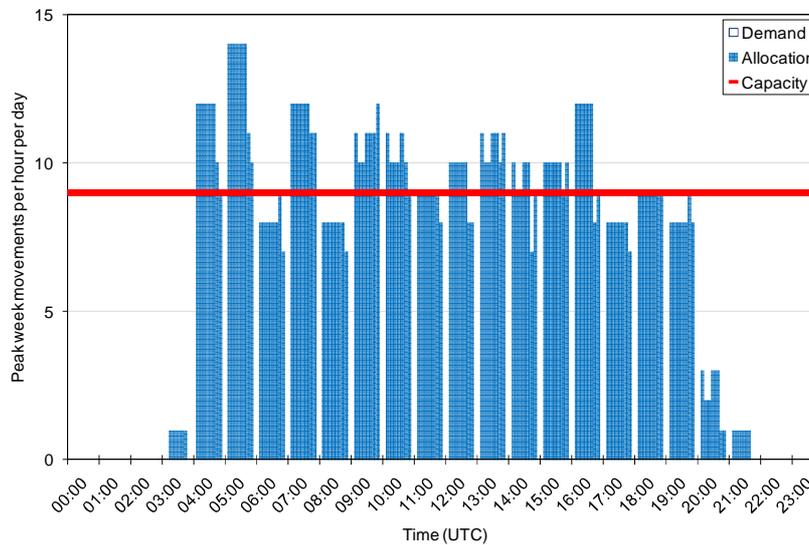
⁸ Decree of 3 March 2000 on the distribution of traffic in the Milan airport system; as updated by the Decree of 5 January 2001 modifying the Decree of 3 March 2000 concerning the distribution of traffic in the Milan airport system

FIGURE 3.10 MILAN LINATE SLOT ALLOCATION⁹

S10
Arrivals:



S10
Departures:

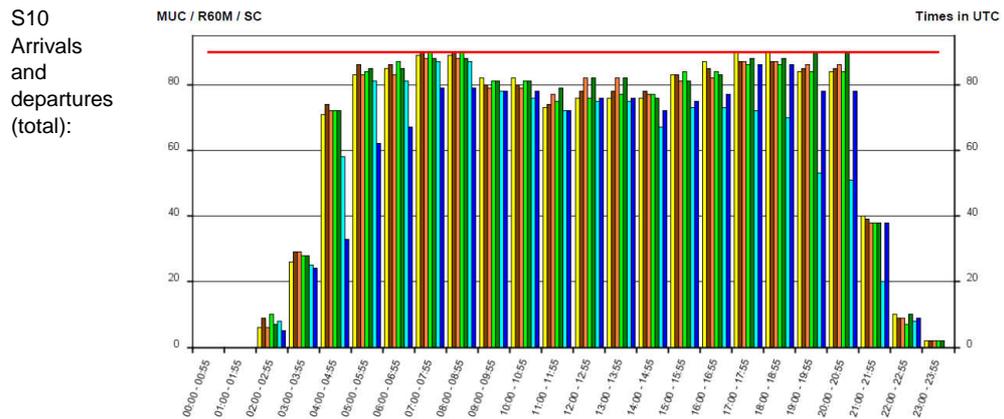


Munich

- 3.32 The runway system at Munich airport serves as a capacity constraint in peak periods and limits flights to 90 movements per hour. Capacity is also limited in the terminal used by Lufthansa which has 71% of slots (terminal 2), and the adjacent areas, but there is spare capacity in terminal 1.
- 3.33 The airport currently plans to construct a third runway and an extension to terminal 2, which would increase capacity to 120 movements per hour. At the time of our interview with the airport management company, it expected to receive permission for this by the end of 2010, but it had not done so by the time this report was published; it may also face a legal challenge from opponents of airport expansion.

⁹ Hourly data for slot requests not available.

FIGURE 3.11 MUNICH SLOT ALLOCATION¹⁰

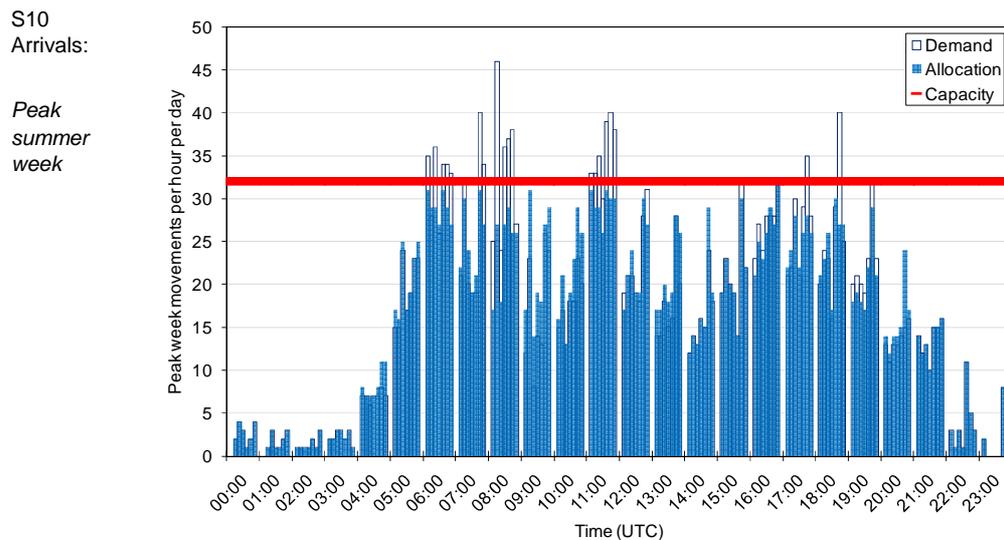


Palma de Mallorca

3.34 Palma de Mallorca airport has two wide spaced runways. Demand is strongly seasonal and exceeds capacity in some hours in summer season, particularly on Saturdays. However, in aggregate there is sufficient capacity to meet demand with some ‘smoothing’ of flights, even on peak Saturdays (see Figure 3.12 below).

3.35 A new pier was recently opened at the airport although this was primarily to improve the efficiency of Air Berlin’s hub operation, rather than to expand capacity. Both runway and terminal capacity could be expanded further if required. The airport management company, AENA, said that the Spanish government considers that airport capacity is critical to the tourism sector and hence to economic development, and therefore it should be assumed that, for the foreseeable future, airport capacity will be expanded sufficiently so that, whilst there may be capacity constraints at certain times, constraints will not have a significant impact on traffic.

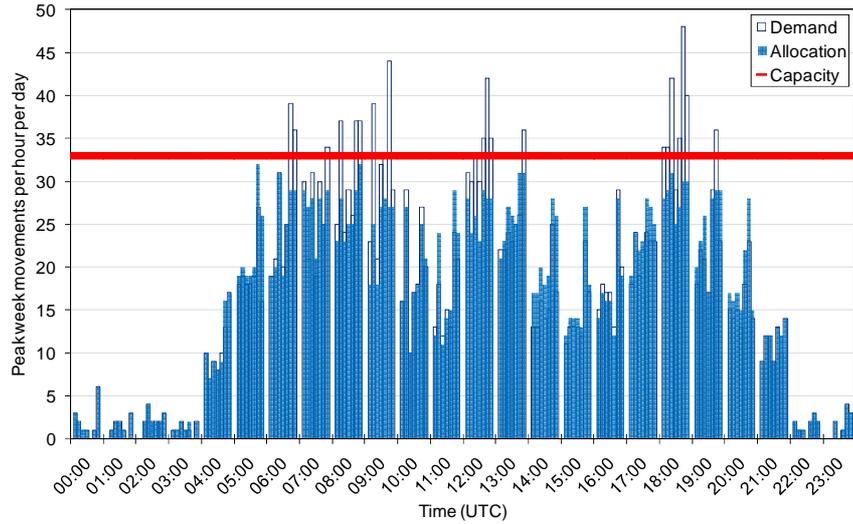
FIGURE 3.12 PALMA DE MALLORCA SLOT REQUESTS AND ALLOCATION



¹⁰ Hourly breakdown of requests, and hourly separation of allocation into arrivals and departures, not available

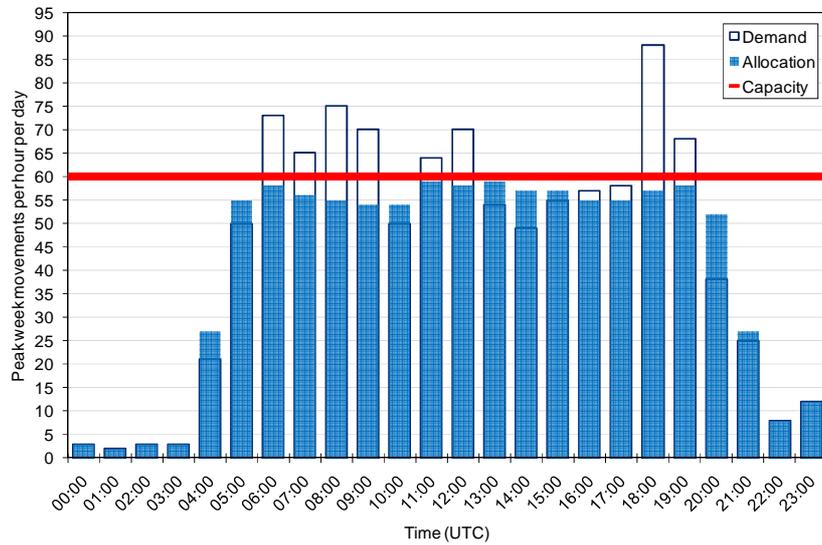
S10
Departures
:

Peak
summer
week



S10
arrivals
and
departures

Peak
summer
Saturdays
only



Paris CDG

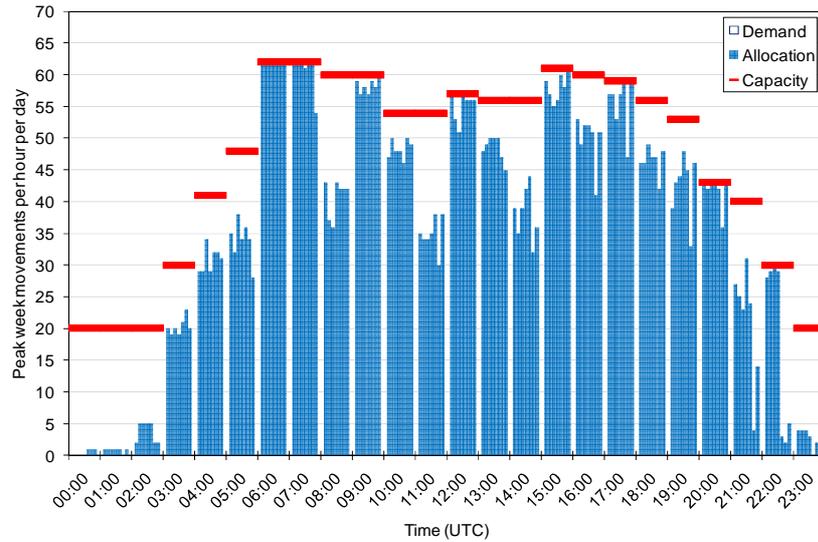
3.36 Paris CDG airport has 4 parallel runways and 3 passenger terminals. The main constraint at Paris CDG is runway capacity; demand is close to capacity in some hours of the day. Although the figures below imply that there is significant spare capacity in some hours, in practice there is a trade-off between arrival and departure capacity and so this is limited. Nonetheless, there is some spare capacity available. In addition, night movements are restricted: airlines are permitted to continue to operate where they have historical slots, but if these are lost (for example because the airline fails to meet the 80% utilisation requirement) the slot is withdrawn from the pool and so cannot be reallocated to another carrier. This has resulted in night slots having significant value and airlines ensure that they are rarely lost.

3.37 The Economic Regulation Agreement for the airport company (ADP) assumes runway capacity will increase from 114 movements per hour in 2010 to 120 in 2015. At present there are no plans to increase runway capacity beyond this; this is under discussion but will require a political decision, and will also be dependent on demand growth.

FIGURE 3.13 PARIS CDG SLOT ALLOCATION¹¹

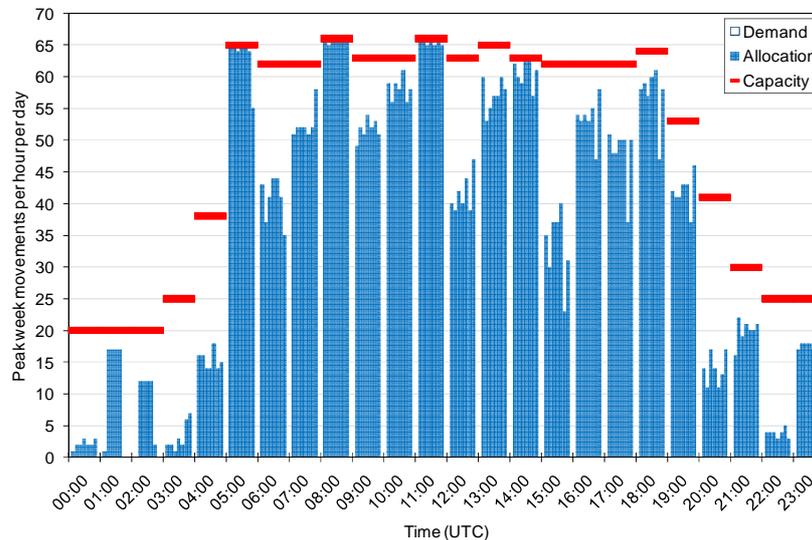
S10

Arrivals:



S10

Departures:



Paris Orly

- 3.38 Paris Orly has three runways (two of which cross) and two passenger terminals. It is limited by a cap of 250,000 slots per two consecutive scheduling periods so, in effect, there is a cap of 250,000 slots per year. Unlike other airports such as Heathrow which are subject to caps on the number of movements per year, the cap at Orly applies to the number of slots which can be allocated by the coordinator.
- 3.39 This limit was imposed by the French government in 1994 and the stated objective was to limit the airport to 200,000 air transport movements¹². In practice utilisation is better than envisaged at the time, as there are usually 220-230,000 movements, but this is significantly less than the technical capacity of the airport. In addition, of these

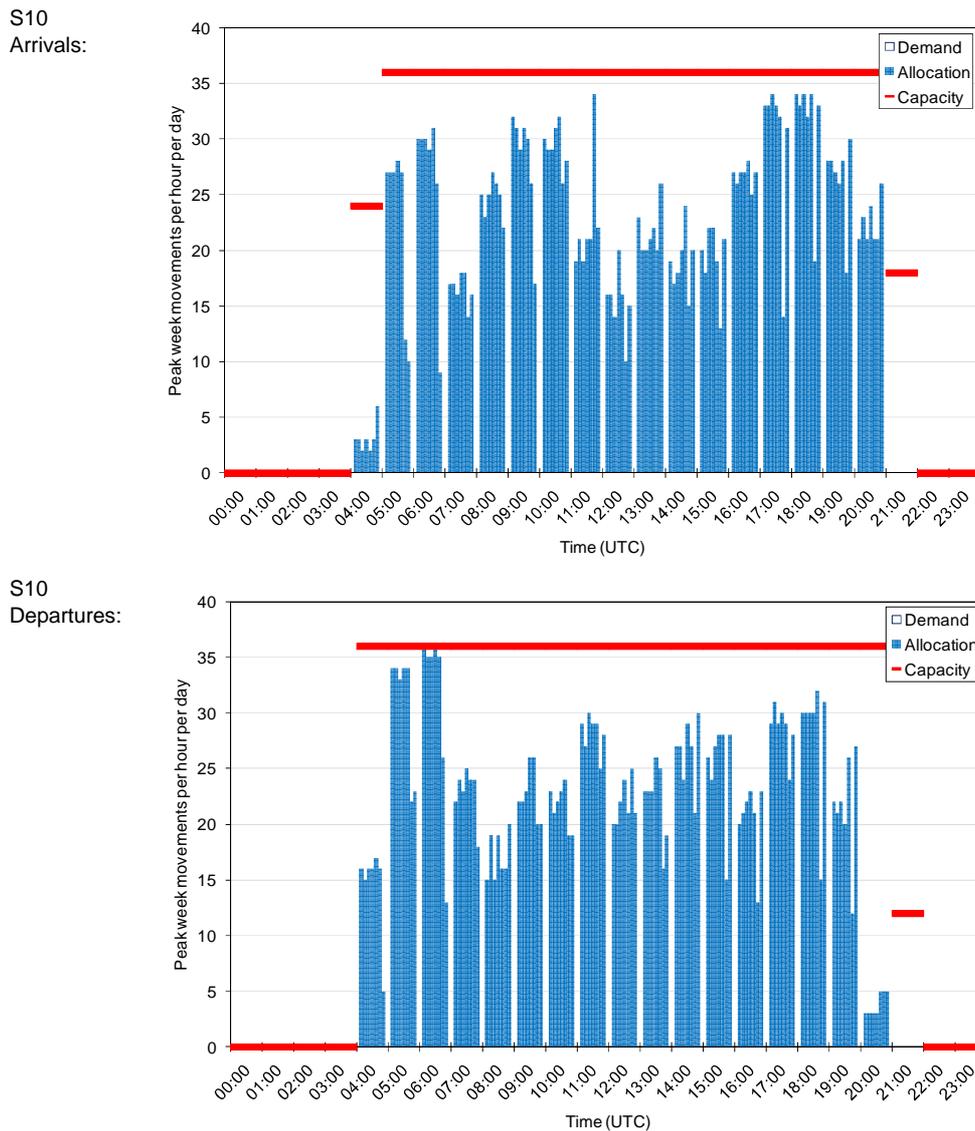
¹¹ Slot requests by hour not available

¹² Decree of 6 October 1994 on slots at Paris Orly airport

slots, 28,453 are currently reserved for PSO routes under Article 9 of the Regulation.

3.40 Therefore, although traffic is significantly lower than both demand and the physical capacity of the infrastructure through most of the day, it is not possible to allocate more slots, because of the limit imposed by the French government. As this constraint is an administrative constraint only, it could be relaxed at relatively short notice if a political decision was made to do so. In practice this constraint is binding in much the same way as a physical constraint and therefore we consider demand to exceed capacity at Orly at all times. However, unlike at other airports, there are few other constraints, so provided an airline can obtain a slot, it can generally use it as it wishes.

FIGURE 3.14 PARIS ORLY SLOT ALLOCATION¹³

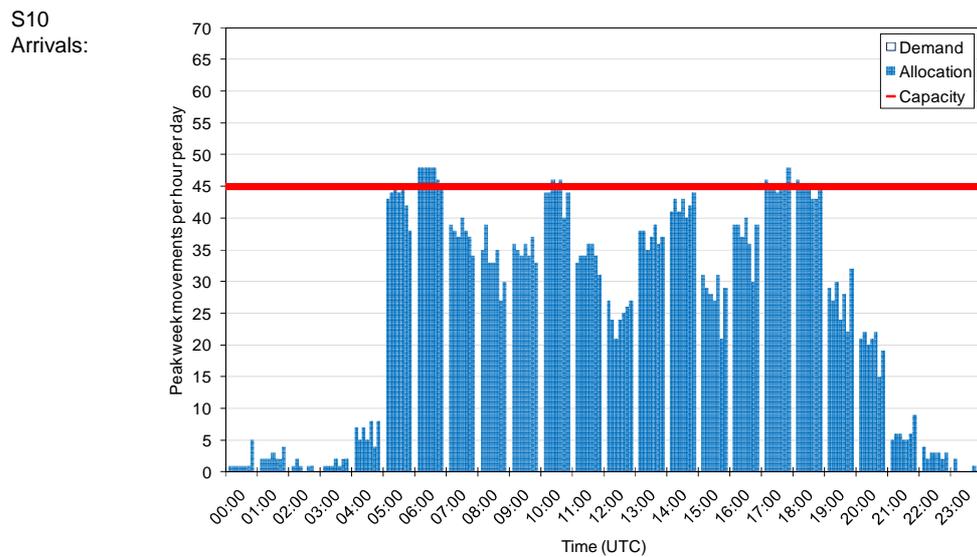


¹³ Slot requests by hour not available

Rome Fiumicino

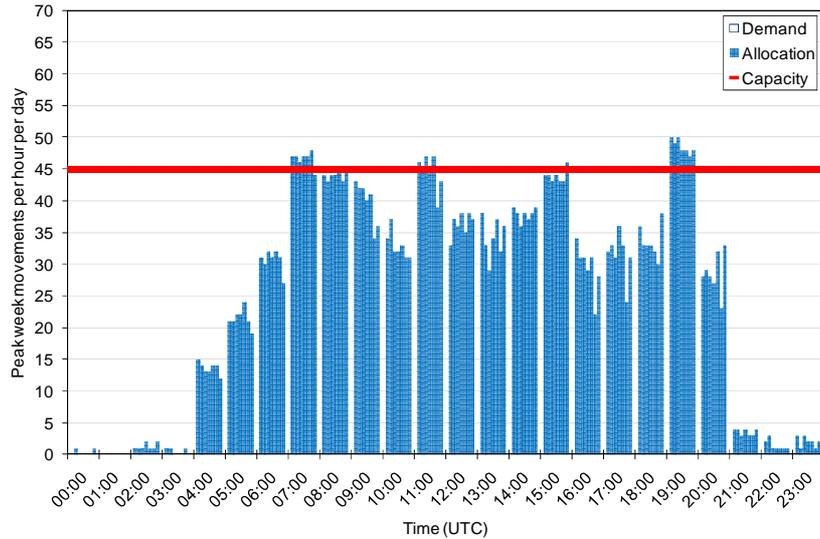
- 3.41 Demand at Rome Fiumicino airport is close to capacity in peak times. The main capacity constraint is the limit on the number of movements per hour, and in particular restrictions on the split between arrivals and departures, which arise primarily from air traffic management capacity rather than airport infrastructure. The capacity limit is current 90 movements per hour, which the airport management company (ADR) believes could be increased to 100 movements per hour with the current airport infrastructure. There is also a maximum of 9 arrivals and 6 departures every 10 minutes, which ADR considers does not allow enough flexibility to reflect the unbalanced nature of demand (for example, the early morning peak is mostly departures). As a result, the limit of 90 movements per hour is never achieved and the de facto limit is around 80. ADR is discussing how to address this with ENAV, the air navigation service provider.
- 3.42 ADR is now currently developing a master plan for the airport. The objective is to increase the capacity of the airport to 100mppa by 2040 but the details of the plan are not available as yet.

FIGURE 3.15 ROME FIUMICINO SLOT ALLOCATION¹⁴



¹⁴ Hourly breakdown of slot requests not available

S10
Departures:



Stockholm Bromma airport

3.43 The information available to us for Stockholm Bromma airport is significantly more limited than any of the other airports, as the airport management company declined to respond – it stated that it would respond to the public consultation only, although it did not actually do so. In addition, limited information was available from the coordinator.

3.44 According to the coordinator, the main constraint at Bromma is the runway. There is also a limit of 20,000 movements per year using jet aircraft with more than 60 seats, but this is not reached, as many of the operators at Bromma use turboprops only; for example, the holder of the most slots, Avitrans, uses only Saab 340 aircraft.

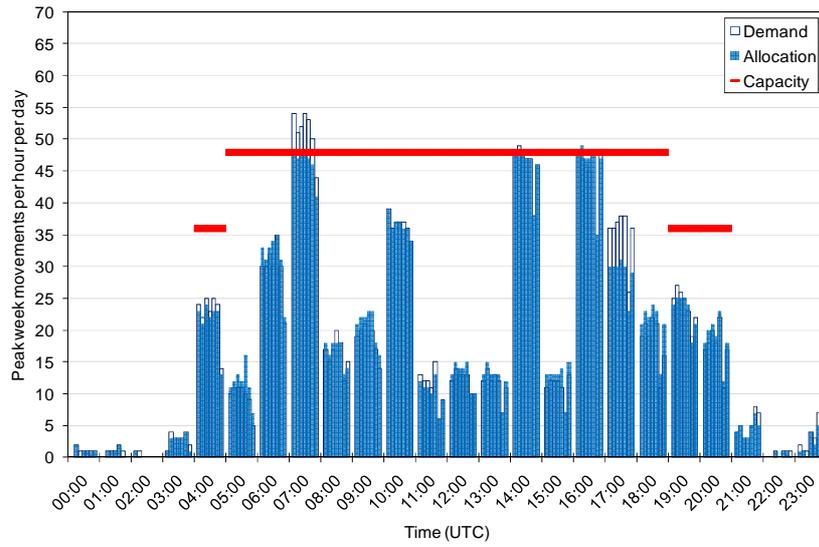
Vienna

3.45 Vienna airport has two runways and three passenger terminals. The constraint at the airport is runway capacity, as the runways are not parallel and therefore cannot be used independently. There were previously terminal capacity constraints but these have been relieved by the expansion of the Schengen area. Traffic is characterised by ‘waves’ of arrivals and departures, as a result of the hub operated by Austrian Airlines and other Star Alliance carriers. Capacity is sufficient to accommodate demand for most of the day but demand exceeds capacity in the morning and evening peaks.

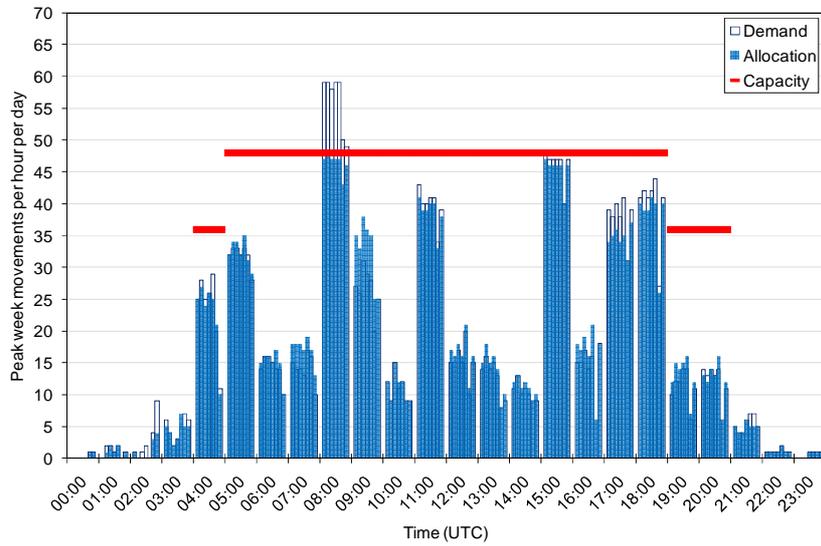
3.46 A new terminal is under construction and will be operational by June 2012. An additional wide spaced parallel runway is planned and could be operational by 2020. The runway capacity could then be increased to 100 movements per hour, but the coordinator expects that initially the total airport capacity will only increase to 80 movements per hour due to terminal and stand capacity constraints.

FIGURE 3.16 VIENNA SLOT REQUESTS AND ALLOCATION¹⁵

S10
Arrivals:

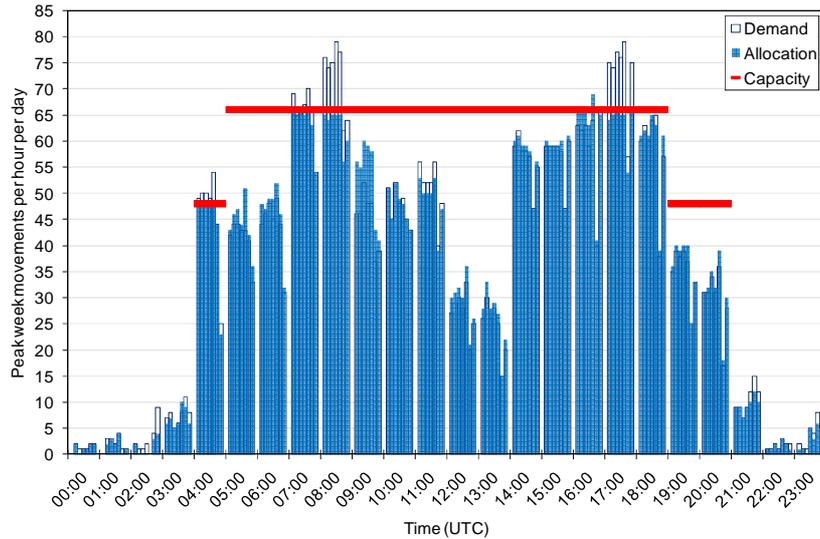


S10
Departures:



¹⁵ The capacity of Vienna is 48 arrival and 48 departure movements per hour, but 66 total movements. Any of these could form the constraint. Therefore we show also show a chart of total movements.

S10 Total Arrivals and Departures:



Summary of current and planned capacity

3.47 The downturn in demand following the global financial crisis, and investments in new infrastructure, have significantly eased capacity pressures at many European airports. However, at all of the sample airports, demand exceeds capacity at some points during the day, although at Palma de Mallorca, Amsterdam Schiphol and Dublin, this is only at quite limited times. At the following airports, demand exceeds capacity throughout the day:

- London Heathrow;
- London Gatwick;
- Paris Orly;
- Düsseldorf;
- Frankfurt.

3.48 In addition, at Milan Linate, demand is higher than capacity, but this is a result of the Bersani Decree on distribution of traffic rights; even if the hourly slot limit was raised, the number of operations could not increase significantly unless this Decree was revoked or amended.

3.49 At two of these airports (Düsseldorf and Paris Orly) the capacity limitations result from policy rather than the physical capacity of the infrastructure: capacity could be expanded almost immediately if policy was changed. The same applies, to a lesser extent, at Heathrow: mixed mode operations could be implemented quickly and could deliver a 10% increase in movements with the current infrastructure, but it is not permitted due to noise impacts. Even if it was implemented, demand would probably still exceed capacity throughout the day.

3.50 A summary of the current level of capacity, and planned changes to capacity, is set out in Table 3.1.

TABLE 3.1 CURRENT AND PLANNED AIRPORT CAPACITY

Airport	Feasible airport capacity	Planned airport capacity
Amsterdam Schiphol	Movement cap: 463,000 movements/year Technical capacity: 615,000 movements/year	Legal changes will allow 510,000 movements/year from November 2010
Dublin	Current capacity 43 movements/hour	Second runway will be developed when demand requires it, would increase capacity to 80-90 movements/hour
Düsseldorf	Movement cap: 45 movements/hour Technical capacity: 56 movements/hour	Operating license expected to be amended in impact assessment period to allow more movements but not clear when or by how much.
Frankfurt	Current capacity: 83 movements/hour	2011: 91 movements/hour 2015: 126 movements/hour
London Gatwick	Current capacity: 49 movements/hour	New runway not possible for foreseeable future. Initiatives to increase movements by 2-3 per hour. Investments to increase terminal capacity.
London Heathrow	Current capacity: 41 arrivals/hour, 43 departures/hour Annual cap: 480,000 movements/year	New runway not possible for foreseeable future. Mixed mode operation could increase runway capacity by 10% but not planned. No capacity increase assumed.
Madrid Barajas	Current capacity: 98 movements/hour Capacity of infrastructure with ATC improvements: 120 movements/hour	Airport said should be assumed constraints do not worsen as capacity will be expanded if needed
Milan Linate	Current capacity: 18 movements/hour (far below technical capacity of airport)	None, although technical capacity is much higher so limit could be increased if political decision
Munich	Current capacity: 90 movements/hour	With third runway, increase to 120 movements/hour
Palma de Mallorca	Current capacity: 60 movements/hour	Scope to increase – two wide spaced parallel runways should allow 80-90 movements/hour Airport said should be assumed constraints do not worsen as capacity will be expanded if needed
Paris CDG	Current capacity: 114 movements/hour	2015: 120 movements/hour Further increases possible but not decided
Paris Orly	Legal limit 250,000 slots/year Equivalent to 220-230,000 movements/year (far below technical capacity of airport)	None, although technical capacity is much higher so limit could be increased if political decision
Rome Fiumicino	Current capacity: 90 movements/hour	Expected to increase but details not available
Stockholm Bromma	No information available	No information available
Vienna	Current capacity: 66 movements/hour	Capacity to increase to 68 movements/hour winter 2010. New terminal to open in June 2012 and additional runway could be operational by 2020. Runway capacity will then be 100 movements/hour but may initially be limited to 80 movements/hour due to terminal/stand capacity constraints

Current and expected levels of congestion

The nature of the capacity constraints at the sample airports

3.51 The analysis of capacity constraints at each of the airports, set out above, shows that at most airports the main constraint is runway capacity rather than terminal capacity. This is because:

- it is usually easier to expand terminals than to build new runways, as the environmental impacts are much more limited; and
- it is possible for airport terminals to operate at well above their design capacity, albeit with impacts on service quality: for example, prior to the opening of terminal 4, Madrid airport handled 23% more passengers than the design capacity of its terminals.

3.52 Therefore, analysis of the extent to which demand for slots exceeds capacity needs to focus primarily on the trend in the number of flights at EU airports.

Expected levels of congestion (baseline scenario)

3.53 On the basis of the planned capacity increases, we have estimated the likely levels of congestion at the sample airports over the impact assessment period. This is shown in Table 3.2 below. Traffic has been estimated by applying flight demand growth rates to the current level of demand, and congestion has been estimated by comparing this to expected capacity. The baseline scenario assumptions for demand growth, and the rationale for these assumptions, is summarised in section 11 and described in more detail in appendix A. Note that the level of congestion shown in this table reflects both the analysis of demand against capacity, and information on the extent to which it is possible in practice for airlines to obtain slots, from the coordinator interviews.

3.54 The gaps in the data mean that some judgement is necessary in estimating the future level of congestion at each of the airports. Where committed plans were not available, we have made an assumption based on the most likely scenario; the assumptions are noted in the last column. At each airport, congestion has been categorised as follows:

- demand exceeds capacity most or all day (red);
- demand exceeds capacity during part of day (yellow); and
- sufficient capacity most or all day (green).

3.55 On current projections, of the 14 sample airports for which we have data, the number of airports at which demand will exceed capacity throughout the day will have reduced from six to five by 2017, but have returned to six by 2025. Demand will no longer exceed capacity all day at Frankfurt, but if capacity cannot be increased above the current planned 120 movements/hour, demand will exceed capacity all day at CDG by 2025. Demand will continue to exceed capacity all day at Heathrow, Gatwick, Orly, Linate and Düsseldorf.

- 3.56 It is important to note that congestion at European airports now appears likely to be significantly less severe than was predicted in the 2008 Challenges of Growth study¹⁶. This study was based on the 2008 Eurocontrol STATFOR long term forecast, which predated the economic crisis and subsequent traffic downturn. The traffic downturn has reduced the gap between demand and planned capacity.

TABLE 3.2 FORECAST AIRPORT CONGESTION

Airport	2010	2017	2025	Capacity assumptions
Amsterdam Schiphol	Demand exceeds capacity during part of day	Demand exceeds capacity during part of day	Demand exceeds capacity during part of day	Assumes annual movement cap raised to 510,000 in November 2010 but no further increase
Dublin	Sufficient capacity most or all day	Sufficient capacity most or all day	Sufficient capacity most or all day	Second runway built when needed
Düsseldorf	Demand exceeds capacity most or all day	Demand exceeds capacity most or all day	Demand exceeds capacity most or all day	Assumed 10% increase in capacity in 2015 but no further increase
Frankfurt	Demand exceeds capacity most or all day	Sufficient capacity most or all day	Demand exceeds capacity during part of day	New runway (2011) and terminal (2015) allow increases from 83 to 126 movements/hour
London Gatwick	Demand exceeds capacity most or all day	Demand exceeds capacity most or all day	Demand exceeds capacity most or all day	Assumes no new runway but increase of 2-3 movements/hour on current runway
London Heathrow	Demand exceeds capacity most or all day	Demand exceeds capacity most or all day	Demand exceeds capacity most or all day	Assumes no third runway, or mixed mode, or relaxation of annual movement cap.
Madrid Barajas	Demand exceeds capacity during part of day	Demand exceeds capacity during part of day	Demand exceeds capacity during part of day	Assumes ATC improvements increase capacity from 98 to 120 movements/hour by 2020 (increase phased in from 2014)
Milan Linate	Demand exceeds capacity most or all day	Demand exceeds capacity most or all day	Demand exceeds capacity most or all day	Assumes no amendment to Bersani Decree
Munich	Demand exceeds capacity during part of day	Sufficient capacity most or all day	Demand exceeds capacity during part of day	Assume third runway operational by 2017
Palma de Mallorca	Sufficient capacity most or all day	Sufficient capacity most or all day	Sufficient capacity most or all day	Assume additional capacity added when required
Paris CDG	Demand exceeds capacity during part of day	Demand exceeds capacity during part of day	Demand exceeds capacity most or all day	Assumes increase from 114 to 120 movements/hour by 2015, but no further increase (e.g. fifth runway)
Paris Orly	Demand exceeds capacity most or all day	Demand exceeds capacity most or all day	Demand exceeds capacity most or all day	Assumes no relaxation of annual slot cap
Rome Fiumicino	Demand exceeds capacity during part of day	Demand exceeds capacity during part of day	Demand exceeds capacity during part of day	Assume improved ATC allowing 100 movements/hour but no new runway
Vienna	Demand exceeds	Demand exceeds	Demand exceeds	Assume third runway operational in 2020,

¹⁶ Eurocontrol (2008): Challenges of growth

capacity during part of day	capacity during part of day	capacity during part of day	initially allowing 80 movements/hour increasing to 90 movements/hour by 2025
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3.57 Where we have sufficient data on hourly demand for slots we have also estimated how many hours per day demand will exceed capacity at each airport. This table excludes Orly and Linate, as the effective constraints at these airports are the annual slot limit and the Bersani Decree - hourly capacity is not an issue.

TABLE 3.3 HOURS PER DAY DEMAND EXCEEDS CAPACITY

Airport	2010	2012	2017	2025
Dublin	1	3	0	0
London Gatwick	14	14	14	17
London Heathrow	15*	15*	15*	15*
Madrid Barajas	6	12	6	12
Paris CDG	8	11	12	15
Palma de Mallorca	2	2	2	3
Rome Fiumicino	5	6	6	9
Vienna	5	5	9	5

Note: Covers daytime period (16-18 hours depending on airport).

* Very limited capacity available in some off-peak hours, but cannot be allocated due to annual movement cap – in effect airport is full all day, year-round.

4. SLOT COORDINATION AT THE SAMPLE AIRPORTS

Introduction

4.1 A key objective of this report is to summarise the operation and results of the Regulation. Due to the complexity of this subject, it has been divided into two sections. This section describes the organisation of slot coordination at the sample airports, while the next section covers the operational results of the Regulation.

4.2 This section covers the following aspects of the slot coordination system:

- organisation of coordinators, covering legal status, funding and governance;
- independence of coordinators;
- the operation of the coordination committees;
- use of local guidelines at the sample airports;
- provision of slot information;
- treatment of business aviation; and
- abuse of slots and enforcement.

Organisation of coordinators

4.3 This section summarises the current legal status, ownership, governance and funding structures of the coordinators at the sample airports. We discuss further below whether these raise any issues of compliance with the requirements of the Regulation regarding independence of coordinators.

Legal status

4.4 The Regulation requires any Member State responsible for a schedules facilitated or coordinated airport to appoint a qualified natural or legal person as a schedules facilitator or coordinator. The structure of the organisation which undertakes coordination differs between States:

- **Not-for-profit organisation:** This is the most common form, although the details vary reflecting the legal structures in each Member State: for example, ACL is a non-profit private company limited by guarantee, whereas the Dutch coordinator (SACN) is a foundation, but in practice these structures are similar.
- **Private limited company:** The Austrian coordinator (SCA) is a for-profit company.
- **Government-owned company:** The Spanish coordinator is part of AENA, a public industrial entity which is the owner and manager of almost all Spanish airports, and the air navigation service provider (the Spanish government has recently announced the separation of AENA airports from air navigation¹⁷, although this had not taken effect when this report was drafted).
- **Natural person:** The German coordinator is a natural person, Claus Ulrich, whose

¹⁷ Real Decreto 13/2010

appointment was defined in a law. When he retires, the German government must pass a new law to appoint his successor (who could be another natural person, or could potentially be a legal person or organisation). The law defines that the named coordinator can be assisted by a team of colleagues, who should ideally all be seconded from the airlines funding the coordinator.

4.5 The details of the legal status of the coordinators is out in Table 4.1 below.

TABLE 4.1 LEGAL STATUS OF COORDINATORS

Coordinator	Study airport(s)	Legal status
ACL	London Heathrow, London Gatwick and Dublin	Not-for-profit company limited by guarantee
ACS	Stockholm Bromma	Not-for-profit organisation
AENA	Madrid Barajas, Palma de Mallorca	Public industrial entity
Assoclearance	Milan Linate, Rome Fiumicino	Not-for-profit company
COHOR	Paris CDG, Paris Orly	Non-profit making association of airlines and airports, with duties assigned to a natural person
FHKD	Düsseldorf, Frankfurt, Munich	Natural person, on secondment from Lufthansa; written agreement between Lufthansa and Ministry guarantees independence
SACN	Amsterdam	Not-for-profit organisation
SCA	Vienna	Private limited company

Funding

4.6 Most coordinators are funded by either airports or airlines, or a combination of the two:

- **Funded equally by airports and airlines** – Assoclearance, COHOR;
- **Majority funded by airlines, but with part funding from airports** – SACN;
- **Majority funded by airports, but with part funding from airlines** – ACL;
- **Funded by airlines only** – FHKD;
- **Funded by airlines, but with the charge collected via airport charges** – SCA; and
- **Funded by airlines and CAA** – ACS.

4.7 SCA sets a fee which is charged by airports to the airlines in proportion to the number of air transport movements operated; these revenues are passed through to SCA by the airports. Some stakeholders interviewed for the study believed that the fee charged by SCA was a slot reservation fee, but this is not correct, as the fee is only levied for movements that are actually operated.

4.8 In most Member States, the costs of coordination are divided in proportion to the number of movements, but in some States different approaches are used:

- COHOR costs are allocated equally between airports and airlines. Airport costs

are then divided proportionally according to the number of slots at each airport (and therefore approximately according to cost incurred). When charging airlines it allocates one third of the airlines' cost equally between all airlines, and the remaining two thirds according to number of slots at the end of the season.¹⁸

- FHKD assigns German airlines into two categories: all German airlines (including General Aviation/Business Aviation) pay in proportion to the number of slots allocated, but a defined group of larger airlines (the “group of payers”) pays a higher rate per slot.
- SACN charges costs per slot to the two smaller Dutch coordinated airports (Rotterdam and Eindhoven). The remaining budget is divided between Amsterdam Schiphol airport, and airlines: Schiphol pays one third, and the home carriers pay two thirds, allocated in proportion to the number of slots used in the previous year. This structure means that KLM, the air carrier accounting for the largest number of movements at the largest airport, contributes over half of the budget.
- ACL is a special case, as the only coordinator which obtains part of its budget from commercial activities (discussed below). These activities contribute 31% of its funding; the remaining budget is obtained from airports in proportion to the workload required (55%), and a smaller part from airlines (14%).

4.9 In many cases only airlines registered in the Member State concerned are charged for coordination. FHKD informed us that non-national airlines are not charged for coordination at German airports because of concerns that this would result in reciprocal charges for German airlines in other States, and that these would be more difficult for the airlines to influence.

Governance

4.10 The governance arrangements of the sample of coordinators are set out in Table 4.2. Most coordinators are governed by a Board which participates in decisions on the budget and management, but which cannot make decisions on operational matters. For FHKD in Germany this role is filled by the “Group of Payers” (seven of the largest German airlines) and the Federal Ministry of Transport, Building and Urban Development, which together form an equivalent to a financial committee, and approve the budgets proposed by FHKD.

4.11 In most Member States, only national airlines are members of coordinators' Boards. Several coordinators informed us that membership of their Board was open to non-national carriers, but that none had sought to join – in some cases because this would also result in the airline having to pay for part of the costs of coordination. COHOR has made attempts to persuade non-French carriers to join, but has not yet succeeded. Assoclearance is unusual in that its Board includes two non-Italian airlines (although for one of these its operations are entirely codeshares with Alitalia).

4.12 In most Member States, coordinated airports are represented on the Boards of coordinators; however this is not the case in the UK and Germany. Several

¹⁸ This increases the cost incurred by smaller airlines. COHOR informed us that the purpose of this structure was intended to prevent airlines joining the Board of COHOR for a brief period purely with the intention of attempting to influence slot allocation to effect their own entry into the markets at the coordinated airports.

coordinators also include a representative of the State, sometimes as a non-voting chair.

TABLE 4.2 GOVERNANCE OF COORDINATORS

Coordinator	Membership of Board	Other governance arrangements
ACL	9 UK-registered airlines (including British Airways and easyJet), with independent chair. Non-UK airlines are permitted to join, but none have so far requested.	Separate Remuneration Committee to determine coordinator salaries: membership is British Airways, easyJet, Virgin, BMI and independent chair.
ACS	Information still outstanding from coordinator	Information still outstanding from coordinator
AENA	N/A	Public entity, dependent on the Ministry of Public Works
Assoclearance	Representatives of 12 airport management companies, 10 Italian airlines and 2 non-Italian airlines. Of the airlines, 5 are Alitalia or subsidiaries, and one of the non-Italian airlines codeshares all flights with Alitalia. Open to: all coordinated/facilitated airports; carriers operating to Italian airports, based in the EU and based outside the EU where registered in States where Italian carriers are granted equal slot rights.	Airports and airlines vote on Board decisions, dual majority required, one member one vote. Board only votes on management, not operational issues.
COHOR	Airports (CDG, ORY, Lyon St-Exupery, Nice-Cote-d'Azur) and 6 French airlines. Observers are: DGAC France, Board of Airlines Representatives (representing non-French carriers), the association of French airports.	Airports and airlines vote on Board decisions, dual majority required, one member one vote. DGAC is chair. Board only votes on management, not operational issues. Salary of coordinator is linked to management salaries in largest contributing airline (Air France), with small proportion linked to good management of COHOR. Managing Director of COHOR automatically has 4-year terms renewed unless Board can show evidence of a mistake.
FHKD	Largest German airlines ("Group of Payers"), Federal Ministry of Transport, Building and Urban Development	Budget (including salary) of coordinator discussed with Group of Payers, final decision taken by Ministry. FHKD has to act within the law and within its budget, but otherwise it has full operational independence. Team are appointed by coordinator, and must be seconded from contributing airlines; salaries therefore linked to airlines. All financial matters are subject to an annual auditing process, carried out by an independent organisation.
SACN	Managing bodies of 3 coordinated airports (Amsterdam Schiphol, Rotterdam and Eindhoven) and 4 national carriers, representative of State as observer	Board makes decisions on budget and management (not operational issues), and approves appointments, with involvement of Ministry. Salaries approved by Board, not the ministry. 10 votes are allocated to airports, 20 to airlines. No airline can have majority of votes, therefore KLM's voting weight is less than its share of traffic. To date, Board has acted in consensus.
SCA	Austrian Airlines, Fly Niki, AirAlps, Vienna Airport plc, airport operators of Linz, Salzburg, Innsbruck, Graz and Klagenfurt	Fee approved by Ministry of Transport after consultations with users.

- 4.13 The annual budgets of coordinators are approved either by a vote of members of the Board (either single majority where only airlines are members of the Board, or dual majority where airports and airlines are represented), or in some cases by approval of the relevant Ministry, after consultation with members of the Board. In most cases, decisions are taken by the Boards of coordinators on the basis of a simple majority of members; members of the Board of SACN vote according to the share of slots each holds, but this is amended to ensure that no one airline has a majority¹⁹.

Independence of coordinators

- 4.14 Article 4(2)(b) of the Regulation specifies that a body designated as a coordinator must be separated functionally from any single interested party, and must be funded in such a way as to guarantee the coordinator's independent status²⁰. Article 4(2)(c) requires coordinators to act in a neutral, non-discriminatory and transparent manner.
- 4.15 In its 2008 Communication on the operation of the Regulation, the Commission stated that:
- it interpreted functional independence as meaning “should act autonomously from, not be instructed by, and not have a duty to report back to the airport managing body, a service provider nor any air carrier operating from the airport concerned”; and
 - it interpreted the requirement on funding to mean that the coordinator should “keep separate accounts and budgets and not rely for the financing of his activities only on the airport managing body, a service provider nor a single air carrier”.
- 4.16 The main issue raised regarding the independence of coordinators relates to Spain: coordination is undertaken and funded by AENA, the national airport management company and air navigation service provider. Whilst we were informed by AENA that the coordination department is operationally independent and therefore meets the requirement for functional independence in the first part of 4(2)(b), it is difficult to prove what degree of independence one department has within an organisation, and in any case the Regulation is not specific about what functional independence should mean.
- 4.17 In addition, AENA coordination is funded entirely by AENA, and it is not clear that this is appropriate to guarantee its independent status as required by the second part of Article 4(2)(b). This is not precise as to what is required and therefore it is difficult to determine definitively if Spain meets this requirement or not, although it clearly does not meet the interpretation of Article 4(2)(b) given by the Commission in its 2008 Communication, as it is entirely reliant for its funding on the airport managing body. Of the coordinator not included in the study sample, we were informed that the arrangement in Portugal is equivalent to that in Spain, with ANA (the national airport company) also being the coordinator.

¹⁹ This has not had any effect in practice, as all decisions thus far have been through consensus.

²⁰ Schedules facilitators are required to act in an independent manner, but functional separation from interested parties is not required.

4.18 However, in the interviews undertaken for this study, stakeholders were agreed that all coordinators (including AENA) now comply with the requirement to operate in a neutral and non-discriminatory manner and therefore comply with Article 4(2)(c). Some concerns were however raised about transparency of their decision-making.

4.19 There are some other arrangements in other Member States which could be interpreted as raising issues of independence:

- the salary of coordinator being linked to salaries in the largest contributing airline, and therefore are indirectly linked to its commercial performance (COHOR and FHKD);
- concentrated ownership or funding (for example SACN receives the majority of its funds from one airline);
- provision of commercial services (ACL); and
- coordinator staff on secondment from airlines (FHKD).

4.20 We have evaluated the structural factors which could impinge on the independence of each coordinator; our assessment is given in Table 4.3 below.

TABLE 4.3 INDEPENDENCE OF COORDINATORS

Coordinator	Measures potentially safeguarding independence	Potential issues
ACL	<ul style="list-style-type: none"> • Independent company • Separation of commercial activities from coordination • Mixed sources of funding 	<ul style="list-style-type: none"> • Commercial activities undertaken
ACS	<ul style="list-style-type: none"> • Owned by airports and airlines 	<ul style="list-style-type: none"> • Funded only by airlines
AENA	<ul style="list-style-type: none"> • Management separation within organisation 	<ul style="list-style-type: none"> • Coordination undertaken by the company that operates almost all airports
Assoclearance	<ul style="list-style-type: none"> • Funded equally by airlines and airports • Board decisions taken by dual majority of airports and airlines 	<ul style="list-style-type: none"> None identified
COHOR	<ul style="list-style-type: none"> • Funded equally by airlines and airports • Salary of coordinator is not linked to operational performance • State is not able to vote on coordination activities 	<ul style="list-style-type: none"> • Salary of coordinator is linked to salaries of mid-level managers in the largest contributing air carrier (Air France)
FHKD	<ul style="list-style-type: none"> • Independence set out as part of secondment agreement • Board includes both airlines and State • Salary of coordinator staff linked to salaries in airlines 	<ul style="list-style-type: none"> • Coordinator and staff are seconded from large German airlines • Funded entirely by airlines
SACN	<ul style="list-style-type: none"> • Board composed of airlines, airports and State • Funding provided by both airlines and airports • Board has always acted in consensus to date 	<ul style="list-style-type: none"> • Largest carrier contributes over half of budget
SCA	<ul style="list-style-type: none"> • Owned by both airports and airlines • Board composed of airlines, airports and State 	<ul style="list-style-type: none"> • Funded only by airlines (through fee collected by airports) • Fee is set by the State

- 4.21 In practice there are arrangements in place which appear to be sufficient to offset any risk to the independence of coordinators. For example, the secondment agreement between Lufthansa and the German coordinator explicitly sets out his independence; the Board of the coordinator is comprised of representatives of a range of airlines as well as the State.

Other activities undertaken by coordinators

- 4.22 Most coordinators that were evaluated for the study undertake only the specific tasks required by the Regulation, and limited directly related tasks: for example, COHOR hosts and manages the EUACA slot database. The exception is the UK coordinator, ACL, which provides a number of additional services on a commercial basis. These include:

- coordination of non-UK airports through its International division (these include airports in Ireland, as well as Dubai and Toronto City Airport);
- management of the Online Coordination System (OCS), in conjunction with a software development company PDC;
- sale of schedule data;
- special event management, for example, it undertook coordination at South African airports during the football World Cup;
- consultancy services, including capacity assessments, punctuality analysis and benchmarking; and
- operation of the slottrade.aero website, which provides information on secondary trading.

- 4.23 Some stakeholders raised the issue as to whether ACL's commercial activities, in particular any consultancy services provided to airlines, could threaten its independence as a slot coordinator. However, ACL undertakes consultancy services for airports, government bodies and other industry participants such as airport retail companies: its list of clients does not include airlines. The only commercial service that it provides to airlines is the slottrade.aero website, which is funded entirely through subscriptions and other user fees; there are no fees related to the success or otherwise of slot trades or applications²¹. This website has significantly improved the transparency of slot trading at the UK airports and does not appear to present any risk to the independence of ACL's primary coordination activities.

Coordination committees

Establishment

- 4.24 Article 5 requires each Member State to ensure that for every coordinated airport in the State, a coordination committee is set up. It must be open to at least to the air carriers regularly using the airport(s), and their representatives; the managing body of the airport concerned; the relevant air traffic control authorities; and the representatives of general aviation using the airport regularly. The coordinator and

²¹ ACL also offers standard template slot trade/lease agreements for sale via the slottrade.aero website

representatives of the Member State should be invited as observers.

- 4.25 Each of the airports in the sample has a coordination committee in place; details of the coordination committees associated with each coordinator are given in Table 4.4. For the States of most airports within the sample, there are individual coordination committees for each coordinated airport; France, the Netherlands and Spain have national coordination committees covering all coordinated airports. One airline, KLM, believed that national coordination committees were more practical for airlines. All committees within the sample meet at least annually (often in September), although at least three of the sample airports meetings are held biannually, with one meeting per season.
- 4.26 Several airlines and airline associations informed us that not all level 3 coordinated airports had established coordination committees. Portugal was given as an example: although it now has a national coordination committee, its first meeting was held in September 2010, 17 years after the Regulation was introduced.
- 4.27 In addition, although the coordinators informed us of the existence of the committees below, not all airlines serving the airports concerned were aware that they existed; for example, easyJet was not aware of any coordination committees in Italy, and British Airways was not aware of the committee at Vienna.
- 4.28 Article 5 also requires the coordination committee to draw up written rules of participation. Coordinators were able to provide copies of these rules for all of the airports in the study, with the exception of Assocclearance, which informed us that at time of writing, none of the Italian coordinated airports had written rules governing the procedures of the slot coordination committee.

TABLE 4.4 COORDINATION COMMITTEES

Coordinator	Structure	Frequency of meeting	Members
ACL	Coordination committee for each coordinated airport	Either annually (September) or biannually, once for each season.	Airport managing body, ATC, airlines at the airport, representatives of GA/BA. ACL attends as observer, UK DfT and CAA may also do so.
ACS	Coordination committee for each coordinated airport	Biannually	Airlines, CAA, ATC, police, customs, general aviation
AENA	National committee covering all coordinated airports. General assembly and executive committee.	General assembly: Annual Executive committee: Quarterly	General assembly: Any airline operating in Spain, airline associations; 3 handling agents; airport authority and ANSP. Executive committee: 6 airlines (5 Spanish airlines plus Air Berlin); 1 handling agent; airport authority and ANSP DGAC (CAA) and coordinator as observers.
Assocclearance	Coordination committee for each coordinated airport	Usually biannually (every season), at least annually	Airport managing body, ATC, airlines interested in scheduling matters at airport, representatives of GA/BA and Commercial Airlines. Coordinator and Member State invited as observers.
COHOR	National coordination	Annual; every three	Any operator holding historic slots (no BA)

	committee covering all coordinated airports	years elects executive committees.	operators), managing bodies of coordinated airports, airline associations (including EBAA France), DGAC France, DSNA.
FHKD	Coordination committee for each coordinated airport	At least annually	Airlines (including non-German) and/or their associations, including GA/BA, airport managing body, ANS, regional authority. Ministry and Coordinator are observers, Ministry chairs meetings.
SACN	National coordination committee covering all coordinated airports	At least annually	All airlines serving the airports are invited, airport managing bodies, ATC, GA/BA. Coordinator participates as observer.
SCA	Coordination committee for each coordinated airport	Annually	All operators (including GA/BA) using airport are invited, coordinator, airport operator, ATC. Voting rights according to number of movements with fixed votes for airports and ATC.

4.29 At many airports, other committees had also been established in order to address specific issues relating to slots and scheduling:

- **Slot Performance Monitoring Committees** or similar had been put in place at airports coordinated by ACL, COHOR²², FHKD, SACN and AENA;
- **Capacity working groups** or similar have been established at airports coordinated by ACL²³, COHOR²⁴ and SCA; and
- An **executive committee on scheduling** meets twice annually in France.
- At Manchester Airport, the coordination committee is held at the same time as a **slot conference**, at which other slot coordination issues are discussed.
- In Spain, in addition to the national coordination committee there are **sub-committees** for the airports of Madrid, Barcelona, and the Balearic and Canary Islands.

Membership

4.30 The airports in the sample follow the requirements in the Regulation on membership (see Table 4.4). Committees must be open to all airlines regularly using the airport, including airlines not registered in the State. We were informed of several committees which non-national airlines attended; such attendance was much more common than membership of the Board of coordinators: this is at least partly because there are no charges dependent on attendance at the coordination committee, whereas in many cases membership of the Board results in an airline having to partly fund the coordinator.

4.31 Spain is unusual in that the coordination committee is divided into both a general assembly, which meets annually, and an executive committee, which meets quarterly. Although any airline operating in Spain can be a member of the general assembly, only six airlines can be members of the executive committee. Five of these airlines are

²² Described as the Slot Usage Committee, meeting twice annually.

²³ Described as the 'Capacity Declaration sub-committee'.

²⁴ Described as an executive committee on capacity, meeting twice annually.

Spanish; AENA informed us that Ryanair would be entitled to membership but had nominated Air Berlin in its place. The executive committee reports to the general assembly once per year.

4.32 COHOR defines “air carriers using the airport in question regularly” as those which hold historic slots, and on this basis individual business aviation operators are not permitted to attend the French national coordination committee. Although EBAA France, the business airlines’ association, does attend the committee, and therefore the operators are indirectly represented, Netjets (a business aviation operator) informed us that it did not believe this was sufficient, as the views of Netjets and EBAA France might differ.

4.33 The coordination committee for Stockholm Bromma also includes representatives of police and customs.

Function of committee

4.34 Article 5 requires coordination committees to make proposals to the coordinator or Member State on, *inter alia*, capacity increases or use, coordination parameters, monitoring of slot use, local guidelines. They are also required to provide mediation where there are complaints regarding the allocation of slots.

4.35 Within this definition, there are only slight differences in the topics covered by different committees:

- London Heathrow: The annual meeting consisted primarily of presentations by Heathrow and other organisations, including the UK coordinator, with little interaction from the attendees. The topics included capacity, operational performance, coordination and investment.
- London Gatwick: In addition to presentation by the airport of topics similar to those at Heathrow, discussions of local rules and scheduling were presented by an airline representative.
- Spanish airports: Reports on traffic trends and coordination parameters and report from the Slot Performance Monitoring Committee.

4.36 As noted above, several airports also have Slot Performance Monitoring Committees or similar. These specifically address off-slot and no-slot operations, and late handback of slots, at the relevant airport, and allow discussion of potential abuse. At several airports there is a ‘name and shame’ approach to airlines believed to be abusing slots, and airlines are asked to explain their performance.

Languages used

4.37 The Regulation does not specify any requirements on the language to be used at coordination committee meetings, beyond that the language(s) to be used should be specified in the written rules of procedure²⁵.

²⁵ Article 5(3).

- 4.38 Several airlines and airline associations argued that English should be used in all coordination committees, to improve transparency and the accessibility of these committees; they stated that they would be more likely to attend coordination committees if they were held in English. KLM informed us the reason language is a particular problem is that most airlines have one slots expert, but will inevitably serve countries speaking more languages than the expert is able to speak. It is possible to use local agents but the issue is too technical for an agent to be effective, and it is difficult for the slots expert to participate in a meeting if it is in a different language or to challenge a decision if it cannot be understood. Another airline informed us that it was sometimes able to participate in committees via partner airlines or handling agents.
- 4.39 The languages used in the committees are set out in Table 4.5 below; of the (non UK and Ireland) airports in the sample, only Schiphol conducts its coordination committees in English rather than the national language. The committee for Stockholm Arlanda (outside the sample) is also conducted in English, and committees in Germany can be conducted in English on request.
- 4.40 The minutes of most committees are usually published in the national language only. The minutes of the French national coordination committee are published in French, with a courtesy (non-binding) translation into English. The minutes of the Vienna coordination committee can be translated into English if requested, but to date this has not occurred.

TABLE 4.5 LANGUAGES OF COORDINATION COMMITTEES

Coordinator	Language of meeting	Language of minutes
ACL	English	English
ACS	Swedish (English at Stockholm Arlanda)	Swedish
AENA	Spanish	Spanish
Assoclearance	Italian	Italian
COHOR	French	French, with English courtesy translation
FHKD	German, or English where attendee does not speak German	German
SACN	English	English
SCA	German	German, English translation if requested (not requested to date)

- 4.41 In contrast, COHOR informed us that conducting committees in the national language had not caused significant problems. In particular, it informed us that non-national airlines often have a representative who speaks French, that in some cases an attendee who is more confident in spoken rather than written French will speak in English and the committee responds in French, and that on one occasion a technical expert with limited French was accompanied by a representative who did speak French.

Effectiveness of coordination committees

- 4.42 Where airlines are able to participate in coordination committees, in general they are thought to function effectively. Several airlines and airline associations believed that they had an important role; without them, they argued, local rules are being developed and implemented in isolation, creating an environment with no system of checks and balances between the local rules and coordination parameters. It was also pointed out that some were more participatory than others. However, whilst most believed that the coordination committees performed their role reasonably well, they also pointed out that those roles were quite limited.
- 4.43 As noted above, at many airports, Slot Performance Monitoring Committees (or similar) have been established, and these were generally thought to be very effective, particularly when used to ‘name and shame’ airlines believed to be abusing slots and request from them justification of their actions. However two German airports (Düsseldorf and Munich) believed that the Committees were ineffective, as they were unable to impose fines for slot misuse directly.

Use of local guidelines

- 4.44 Article 8(5) permits local guidelines proposed by coordination committees to be introduced at coordinated airports, provided that they do not affect the independent status of the coordinator, comply with Community law and aim at improving the efficient use of airport capacity. However, since the Regulation is quite prescriptive about the process to be followed and criteria to be used for slot allocation, the scope for local guidelines in practice is quite limited.
- 4.45 Local rules are one of several measures which can affect the operation of slots at an airport; other measures include regulations introduced by the Member State (but not proposed by the coordination committee) and the parameters set out in the airport’s capacity declaration. The distinction between local rules and coordination parameters is not clear, and similar types of restriction have been described as local rules at some airports, but as Member State regulations or part of the capacity declarations at others. For example, similar restrictions on night movements are regarded as local rules at Heathrow, Member State regulations at CDG and as coordination parameters at Amsterdam Schiphol, Vienna, and the German airports. The details of all **administrative restrictions** are given in Table 4.6.

TABLE 4.6 LOCAL RULES AND OTHER ADMINISTRATIVE RESTRICTIONS

Coordinator	Local rules and other administrative restrictions
ACL	Gatwick: cap on night movements; urgent or time critical operations Heathrow: cap and noise quota for night movements; cap on total movements; rules for ad hoc operations Dublin: none
ACS	None
AENA	Madrid: Prohibition on general/business aviation movements; night noise quota; noise reduction limits No local rules at other airports

Assoclearance	Linate: caps on movements at route/airline level, and requirements to use narrowbody aircraft only ²⁶ Note that legally this is a traffic distribution rule not a local guideline under the slot Regulation, but it has a similar impact.
COHOR	Regulations passed by the Member State: CDG: cap on night movements Orly: cap on total slots allocated; restrictions on use of slots allocated for PSO routes ²⁷ All: conditions for business aviation operations at different airports
FHKD	Regulations passed by the Member State regarding Düsseldorf: administrative cap on movements Frankfurt: night movement cap
SACN	Capacity declarations include Schiphol: total annual cap on movements, by hour; noise restrictions; night movement limit Rotterdam: total annual cap on movements, by aircraft size; ban on night movements
SCA	Capacity declarations include: Vienna: night flying regulations

4.46 In addition to the traffic distribution rule described above for Linate, the Lombardy region introduced in 2007 a local rule²⁸ which sought to give the regional government the right to participate in decisions on the allocation of slots at airports in Lombardy, in particular to ensure regional development aims were met. This was challenged, and rescinded by the Italian Constitutional Court²⁹, on the basis that the region was not competent to introduce such a law. In addition, Gatwick airport introduced a local rule (rule 2A) to extend the minimum length of a series of slots from 5 to 15, but this was withdrawn because it clearly was not consistent with the definition of a slot series in the Regulation.

Provision of slot information

4.47 Article 4(8) requires that, on request by interested parties, the coordinator must provide interested parties with:

- (a) historical slots by airline, chronologically, for all air carriers at the airport;
- (b) requested slots, by air carriers and chronologically, for all air carriers,
- (c) all allocated slots, and outstanding slot requests, listed individually in chronological order, by air carriers, for all air carriers,
- (d) remaining available slots,

²⁶ Defined in Decree of 3 March 2000 on the distribution of traffic in the Milan airport system; as updated by the Decree of 5 January 2001 modifying the Decree of 3 March 2000 concerning the distribution of traffic in the Milan airport system (the 'Bersani Decree')

²⁷ Slot limit defined in Decree of 6 October 1994 relative to slots at Paris-Orly airport; PSO restrictions set out in Decree of 28 January 2002 amending the Decree of 29 December 1995 on the use and reservation of slots at Paris Orly

²⁸ Lombardia, L.R. n. 29/2007, Rules on air transport, airport coordination and management of airport concessions

²⁹ Italian Constitutional Court judgement no 19 of 2009.

- (e) full details on the criteria being used in the allocation.

4.48 The only specification of how the information should be provided is that it should be “in written form or in any other easily accessible form”. To meet this, two methods of information exchanges have been adopted by coordinators:

- all coordinators in the sample use SITA messages in the Standard Schedules Information Manual (SSIM) format for communications regarding slots; and
- several coordinators provide information via their own website; and
- most also provide information (and in some cases facilitate slot requests) via shared websites.

4.49 These methods are discussed below. In addition, many coordinators handle requests by email, phone and fax.

SSIM messages

4.50 The Standard Schedules Information Manual is published by IATA, and defines a set of common standards for external exchanges between airlines and other relevant organisations, including slot coordinators. There are several standard formats of message used in relation to slots, with strictly defined protocols for the setting out of information. These can be used by carriers and coordinators to perform all necessary communications relating to slots, including:

- requesting or making changes to slots, with corresponding replies by the coordinator to confirm requests or propose alternatives;
- requesting information on the slots held by a given operator at a given airport, and the corresponding replies by the coordinator; and
- requesting information about the availability of slots at a given airport, and the corresponding replies by the coordinator.

4.51 An example of the messages used is given below:

```
SCR
S09
05FEB
LHR
NAF700 AF701 30MAR23OCT 1234500 290AB3 NCE0900 1030NCE JJ
SI NEW SERVICE MON - FRI
```

4.52 This is a Schedules Clearance Request (SCR) message which requests a new slot in the summer 2009 season, for London Heathrow. It specifies the arriving and departing flight numbers, the dates between which the slot is required, the days of the week on which it will operate, the aircraft type, arrival and departure airports and times, and the type of service (e.g. scheduled, cargo). The coordinator uses a similar message format to respond to such requests.³⁰

³⁰ For further examples see the Guide to SSIM provided by ACL, available at <http://www.acl-uk.org/guidetossim/>.

Individual coordinator websites

- 4.53 All of the coordinators in the sample respond to SSIM messages, and most provide some level of information on the availability of slots for the current and following seasons via their websites; this is usually in the form of queries on slot availability at requested times. Where coordinators do provide information, the level of detail provided varies. ACS Sweden does not provide information; SCA Austria does not allow queries, but SSIM messages can be sent via its website (although presumably most airlines would be able to do this themselves via their own telex systems). The website for Assoclearance states that it provides an automated system for managing slots, but this is contradicted by several airlines, who informed us that it was not possible to make automated requests to Assoclearance.
- 4.54 The websites of several coordinators also provided information on coordination parameters, local rules, and total slot requests and allocations.

Joint websites

- 4.55 In addition to the websites of individual coordinators, there are two websites which collate information from multiple coordinators:
- **www.EUACA.org** allows consultation of slots data for the airports coordinated by all coordinators in the sample, with the exception of ACL, and by most other European coordinators. The EUACA database is password-protected and therefore this information is only available to registered airline users.
 - **www.Online-Coordination.com** (OCS) provides slots data for the airports coordinated by ACL, SCA and ACS, and several other European coordinators including Belgium, Denmark and Portugal. We were also informed that online coordination is being implemented at Amsterdam Schiphol. With the exception of ACL, at least some of the same data for these coordinators is also available on the EUACA site. In addition, OCS allows airlines to edit their slot portfolio (for example, to delete slots) and submit slot requests online. OCS data on capacity availability is publicly accessible without a password being required, but only registered airlines can use the other functions.
- 4.56 There are currently 131 airlines registered to use OCS (note that some information is also available without registration). The EUACA database has approximately 1,000 airline users (not necessarily from different airlines).
- 4.57 We were given access to the EUACA database, which provides information on allocated slots at the airports coordinated by all coordinators providing data to the website. From the database, it is possible for airlines to search for the current holders of slots at a given time at a given airport. The results include details of requested and allocated times, slot series start and end points, days of operation, flight numbers, aircraft type, number of seats, type of operation and origin and destination. This data can either be viewed online or downloaded and covers four seasons (currently, winter 2009 to summer 2011).
- 4.58 The OCS website was developed by ACL in cooperation with a software development company, PDC. The EUACA database was developed by, and is hosted by, COHOR. COHOR informed us that as OCS was owned by a software supplier rather than

coordinators, it would resist using it, on the grounds that control should be retained by coordinators. The number of seasons covered varies between the coordinators.

Adequacy of information provided by coordinators

- 4.59 Most of the airlines and airline associations interviewed for the study used a combination of approaches to obtaining slot information, including coordinator websites and SITA messages via telex, and e-mail, telephone and in-person talks for more in-depth information.
- 4.60 Most airlines believed that the information provided by coordinators was sufficient, but several informed us that the level and quality of information provided varied between coordinators; a number of stakeholders believed standardisation of online data formats would be beneficial. However, the benefits that airlines could obtain from better data were limited, as in most cases they already obtained sufficiently prompt and accurate information to plan their operations. One airline commented that where insufficient information was provided on a coordinators' website (in some cases due to limitations of IT systems), this was always adequately supplemented by SSIM format messages.
- 4.61 However several airlines believed that more information was required on actual coordination parameters (in particular keeping that information up to date), local rules and sanctions systems. One airline noted that most information provided was historic rather than current slot availability, and that on-the-day slot availability data would be more useful; another requested real-time feedback on slot monitoring.
- 4.62 A number of airlines informed us that the OCS website was easier to use than the EUACA database, and that the data on the EUACA website was not kept consistently up to date. This is particularly important for arranging ad hoc operations, including business aviation but also positioning flights, and at times of rapid change in slot allocations (for example in the run-up to the IATA scheduling conference).
- 4.63 Several airlines cited the data provided by ACL as an example of best practice, but raised issues with provision of data by Assoclearance, AENA and the Hellenic Slot Coordination Authority: we were informed that information is available for these airports, but not as quickly as via a database or online system. In the case of Assoclearance, one airline stated that slot availability was not public, and that the lack of transparency undermines confidence in the response; another informed us that Assoclearance only provided data in raw form, which was impractical for airlines to process to identify available slots. As noted above, on their website Assoclearance states that it provides slot availability information, but several airlines informed us that this information could only be obtained via SITA messages. Familiarity with the different formats used by coordinators clearly helps, as airlines generally considered the coordinators for the airports at which they were based to provide very good data.
- 4.64 Transparency of information was noted as an issue by several stakeholders, in particular regarding slot holdings and availability. One airline informed us that when slots become available, not all coordinators make this publicly known, and this may reduce the competition for these slots.

Treatment of business aviation

- 4.65 Article 2(f)(i) specifies that business aviation should also be considered an air carrier and hence be entitled to historic preference to the extent that it operates to a schedule. However, in virtually all cases, business aviation operations are ad hoc. At some airports, business aviation operators have to apply to the coordinator for ad hoc slots but at other airports they can operate without coordination: for example, at Amsterdam Schiphol, outside peak hours, business aviation flights are permitted without coordination as there is sufficient capacity available.
- 4.66 Although the Regulation specifies that business aviation should be entitled to historic preference to the extent it operates to a schedule, it does not specify what is meant by a schedule. Whilst it is clear that to qualify as a series of slots, a flight must operate at the same time on the same day and be operated by the same carrier, it is not clear whether it has to operate on the same route. ACL would require the flight to operate on the same route to obtain historic preference (based on the definition of ‘schedule’ in Regulation 1008/2008); whereas FHKD would consider that the service must be operated by the same carrier at the same time, but not necessarily on the same route. However, in practice this difference has little impact as the vast majority of business aviation flights are not at the same time each day.
- 4.67 Table 4.7 summarises the approach to business aviation at each of the study airports. Slots are not reserved for business aviation at any of the sample airports although we were informed that this does happen at Catania and Nice airports. At Nice airport (but not other French airports) business aviation is granted historic slots by the coordinator on the basis of its historic total level of usage. One major airline complained that business aviation at Nice blocks capacity which could be used by regular scheduled flights.

TABLE 4.7 APPROACHES TO BUSINESS AVIATION

Coordinator	Study airport(s)	Approach to business aviation
ACL	London Heathrow, London Gatwick and Dublin	Operates using ad hoc slots which can be allocated by the coordinator. Can obtain historic preference but only where it operates a series of slots according to a schedule – defined as being a regular operation at the same time on the same route.
ACS	Stockholm Bromma	Business aviation not coordinated, as it uses a non-congested section of the airport
AENA	Madrid Barajas, Palma de Mallorca	Business aviation with MTOW less than 15 tonnes cannot operate between 07:00 and 23:00 at Madrid Barajas. Business aviation requests have lower priority than commercial services. However, usually no conflict with requests.
Assoclearance	Milan Linate, Rome Fiumicino	Business aviation not coordinated at study airports. Obtains historical slots only at Catania, following 80/20 rule.
COHOR	Paris CDG, Paris Orly	Only very limited ad-hoc operations at CDG. COHOR does not regard the route as part of the definition of a slot. At Nice airport (only) historic rights are granted to business aviation if it uses slots at a consistent time.
FHKD	Düsseldorf, Frankfurt, Munich	Business aviation coordinated as ad hoc, and therefore can apply for ad hoc slots after the slot return date

SACN	Amsterdam	Does not currently have to apply for slots for most of the day, as there is spare capacity available. At peak times has to request slots and will soon have to request slots at all times due to implementation of online coordination. No cases of business aviation being eligible for historic preference and therefore coordinator has not addressed this issue.
SCA	Vienna	Allow business/general aviation to apply for slots 28 days ahead using OCS access. Business aviation operators eligible for historic where they operate according to a schedule. Destination of business aviation flights not regarded as part of definition of slot (since terminal capacity not an issue).

4.68 The proportions of movements accounted for by general and business aviation are shown in Table 4.8. At the most congested airports this proportion is 1% or lower, although SACN estimated that business aviation accounted for 3-5% of movements at Amsterdam Schiphol, and Assoclearance reported approximately 25% business aviation at Milan Linate, as well as Rome Ciampino. The higher proportions at Milan Linate, Amsterdam Schiphol and Düsseldorf reflect the fact that the movement limits for commercial flights at these airports are well below the technical capacity of the infrastructure, and business aviation is not included within these movement limits.

TABLE 4.8 GENERAL AND BUSINESS AVIATION MOVEMENTS

Study airport	Proportion of movements	Time period
London Heathrow	0.5%	2009
London Gatwick	0.1%	2009
Dublin	3.4%	Summer 2009
Stockholm Bromma	Information not available	-
Madrid Barajas	0.0%	Summer 2009
Palma de Mallorca	1.0%	Summer 2009
Milan Linate	25%	Not specified
Rome Fiumicino	Close to zero	-
Paris CDG	0.1%	Summer 2010
Paris Orly	< 0.1 %	Not specified
Düsseldorf	4.4%	Summer 2008
Frankfurt	1.5%	Summer 2008
Munich	3.9%	Summer 2008
Amsterdam	3%-5%	Not specified
Vienna	5.9%	Summer 2009

4.69 The current Regulation does not allow States to reserve capacity for ad hoc operations such as business aviation. However, this does happen at some airports as a result of restrictions on operations of commercial flights defined in the capacity parameters of the airport which do not apply to business/general aviation. This can result either from the technical characteristics of the infrastructure or from regulations that are applied to

the airport:

- At London City Airport, the capacity of the apron is lower than the capacity of the runway (36 compared to 38 movements/hour) and therefore this creates 2 slots per hour that can only be used by business/general aviation at present.
- At Amsterdam Schiphol throughout most of the day there is capacity that can be used by business aviation, as business aviation is not included within the annual movement limit which is the main constraint on capacity at the airport.

Geneva airport

4.70 There is a significant difference in the approach to business aviation at Geneva airport (not a case study airport). At this airport, the allocation of slots to business aviation operators is undertaken by the ground handling agents, not by the coordinator. Business and general aviation operators are required to apply for prior permission to operate (Prior Permission Required – PPR). The coordinator updates the handling agents every 2-3 hours with how much capacity is available to be allocated to business aviation, and these allocate the slots accordingly, on a first-come-first-served basis. The technical capacity of the runway is 40 movements per hour but the capacity limit is defined as 36 movements per hour; this limit does not apply to business aviation, and therefore in effect, 4 movements per hour are reserved for it (this is similar to the situation at Düsseldorf described in section 3 above).

4.71 This approach to coordination of business aviation could be considered to be an infringement of the Regulation because Article 4(5) states that the coordinator should be the sole person responsible for slot allocation. However, this difference appears to have limited impact in practice. The rationale for the system is that it is easier for the business aviation operators to have a single contact at the airport who can handle all aspects of their operation, including slots.

Abuse of slots and enforcement

Reconciliation between flight plans and slots

4.72 Article 14(1) allows for an air carrier's flight plan to be rejected if it does not have an airport slot. This already happens in France, Germany and at two airports in Spain. However, for flights to other airports, no such monitoring is undertaken (partly because no slot operations are very rare at most airports), and there is a reliance on deterrence, through application of sanctions *ex post*. The approach taken in each State is summarised in Table 4.9 below.

TABLE 4.9 RECONCILIATION OF FLIGHT PLANS AGAINST AIRPORT SLOTS

Coordinator	Study airport(s)	Approach to monitoring of flight plans against slot
ACL	London Heathrow, London Gatwick and Dublin	No pre-flight checks. Approach relies on application of penalties. No slot operations very rare (most penalties imposed are for deliberate off slot operations)
ACS	Stockholm Bromma	No pre-flight checks. No-slot operation very rare.
AENA	Madrid Barajas, Palma de Mallorca	Regular crosschecks for inconsistencies between flight plans and slots allocated (only at Madrid and Palma de Mallorca). Flight plans can be rejected if inconsistent.

Assoclearance	Milan Linate, Rome Fiumicino	No pre-flight checks.
COHOR	Paris CDG, Paris Orly	Pre-flight checks using DFS software, which can send warning messages. Business aviation operator discrepancies must be resolved immediately since ad hoc.
FHKD	Düsseldorf, Frankfurt, Munich	For all submitted flight plans to/from a coordinated German Airport, there is an automatic comparison 4 hours before the estimated off-block (departure) time. This verifies if an airport slot has been allocated and whether the flight is significantly off slot. If there is a mismatch, a Slot Warning or Flight plan not accepted message will be generated and transmitted to the operator automatically (for business/general aviation only).
SACN	Amsterdam	No pre-flight checks. Penalties imposed for operations without a slot during the night curfew period.
SCA	Vienna	No pre-flight checks.

- 4.73 Some coordinators and airlines argued that whilst it is possible to check in advance that a flight has an airport slot, it is not necessary or practical to check in advance whether a flight is operating off-slot except for general and business aviation flights. This is because operational delays are common and it is not practical, or beneficial, to re-clear all slots.

Monitoring of slot abuse

- 4.74 In contrast, most coordinators do undertake monitoring of slot abuse, primarily off-slot and no slot operations. This monitoring can include comparison of departure and arrival times advertised by airlines and recorded in computer reservation systems with allocated slot times, as well as analysis of the actual variation between operating times and slot times. Again, the approach varies significantly between States. The approach of each coordinator is summarised in Table 4.10.

TABLE 4.10 APPROACH TO MONITORING SLOT ABUSE

Coordinator	Study airport(s)	Approach to monitoring of slot abuse
ACL	London Heathrow, London Gatwick and Dublin	Rigorous monitoring undertaken, given the constraints at the airports concerned. Includes comparison of allocated and published slot times (e.g., on the airline's website); investigation of operations occurring outside of slot tolerances parameters (early or late); statistical analysis of actual slot use, and monitoring for use of slots in a significantly different way (e.g., larger aircraft type)
ACS	Stockholm Bromma	Comparison of allocated slots and operated times, checks that slots are operated reasonably on time
AENA	Madrid Barajas, Palma de Mallorca	Check for consistent, repeated significantly off-slot operations which are intentional (e.g. listed in schedule). Also checks for 'no shows' (flights which do not operate but the coordinator is not notified)
Assoclearance	Milan Linate, Rome Fiumicino	Rigorous monitoring undertaken through software, including: comparison of allocated and published slot times (e.g., on the airline's website); investigation of operations occurring outside of slot tolerances parameters (early or late); statistical analysis of actual slot use, and monitoring for use of slots in a significantly different way (e.g., larger aircraft type)

COHOR	Paris CDG, Paris Orly	Comparison of allocated slots and operated times for no-slot operations. Off-slot operations difficult to monitor unless complaints received. Report late handback of slots to Coordination Committee.
FHKD	Düsseldorf, Frankfurt, Munich	Report produced showing off slot/no slot operations and late handback for each airline at each airport. This is compared to the average performance at each airport and if there is substantial variation, the process to impose a fine can be started.
SACN	Amsterdam	There is no monitoring of daytime off slot and no slot operations. There is monitoring of all night operations against slots, up to five infringements per airline – the case is then referred to the Ministry of Transport which can impose penalties, and no further monitoring is undertaken.
SCA	Vienna	Monitoring for misuse of slots undertaken, including comparison of allocated and operated and/or published slot times (e.g. on the airline's website), investigation of operations occurring outside of slot tolerances parameters (early or late), statistical analysis of actual slot use, monitoring for use of slots in a significantly different way (i.e. larger aircraft type)

Penalties available for infringements

4.75 The legal basis for penalties, and the maximum sanctions which can be imposed, are summarised in Table 4.11 below. In Ireland and Sweden no slot sanction scheme has been introduced, and therefore these Member States have not complied with the obligation in Article 14(5) to introduce effective, proportionate and dissuasive sanctions. In the other States, fines can be imposed - and in the case of Austria (and also we understand Belgium), a prison sentence.

TABLE 4.11 LEGAL BASIS FOR PENALTIES

Coordinator	Study airport(s)	Basis for penalties for misuse of slots	Maximum penalty
ACL	London Heathrow, London Gatwick	UK Airport Slot Allocations Regulations 2006 Misuse of Slots Enforcement Code (as amended, September 2008)	£20,000 (€23,000)
	Dublin	No slot sanction scheme	No slot sanction scheme
ACS	Stockholm Bromma	No slot sanction scheme	No slot sanction scheme
AENA	Madrid Barajas, Palma de Mallorca	Articles 49 and 55 of Aviation Safety Law (Law 21/2003)	€30,000 per slot, €90,000 per series
Assoclearance	Milan Linate, Rome Fiumicino	Italian Ministry of Transportation Decree no. 172, 4 October 2007	€100,000
COHOR	Paris CDG, Paris Orly	Décret no 2007-863 du 14 mai 2007, Ministry of Transport	€7,500 per infringement (can be doubled if breach repeated within one year) €20,000 per infringement of night regulation at CDG
FHKD	Düsseldorf, Frankfurt, Munich	German Air Traffic Law - Deutsche Luftverkehrsrecht 1922, as amended 2007 (LuftVG) FHKD DuchfuehrungsVO (1994, as	€50,000

		amended 2005)	
SACN	Amsterdam	Decision of 15 September 2005 amending the Decision on Slot Allocation relating to the prevention of misuse of slots	€15,000
SCA	Vienna	Austrian Aviation Law (as amended October 2008) – Article 169	€22,000, plus up to 6 week prison sentence

Operation of the sanctions system

4.76 The table below summarises the operation of the sanction system, and what fines can be imposed for. In the UK, fines are imposed directly by the coordinator, but in the other Member States, fines are imposed by other bodies, most commonly a government authority such as the civil aviation authority. In Austria, a criminal court process is necessary to impose a fine or prison sentence for slot misuse (this is also the case in Belgium).

TABLE 4.12 OVERVIEW OF PENALTY SYSTEM

Coordinator	Study airport(s)	How fines imposed	What fines can be imposed for
ACL	London Heathrow, London Gatwick	Fines imposed directly by ACL. Process for independent review if challenged; carrier can also seek judicial review.	Off slot and no slot operations
	Dublin	No slot sanction scheme	No slot sanction scheme
ACS	Stockholm Bromma	No slot sanction scheme	No slot sanction scheme
AENA	Madrid Barajas, Palma de Mallorca	Imposed by AESA, the national aviation safety agency, which also conducts the sanction procedure.	No-slot and repeated off-slot operations, late handback, non-compliant exchange of slots
Asso-clearance	Milan Linate, Rome Fiumicino	Imposed by ENAC, with additional information provided by Assoclearance.	No-slot operations, 4 consecutive off-slot operations, non-compliant exchange of slots, incorrect information
COHOR	Paris CDG, Paris Orly	Imposed by DGAC France. Details of first infringement sent to DGAC, who send warning letter, then if repeated DGAC may send case to the Administrative Committee on Civil Aviation (CAAC), which can impose fine.	Repeated and intentional no-slot or off-slot operations, use in a significantly different way to original request
FHKD	Düsseldorf, Frankfurt, Munich	Fines imposed by BAF (Aviation Safety Authority) with information being provided by FHKD. Process slow.	Repeated off slot operation, operation without a slot, provision of inaccurate information, late handbacks
SACN	Amsterdam	After five offences, SACN refers airline to Ministry of Transport which can then impose a fine for each offence	Applied for night operations without a slot only. No other penalties.
SCA	Vienna	Case must be brought in front of administrative court in vicinity of airport.	Any infringement of the Regulation 95/93 could be prosecuted (law does not list specific offences)

- 4.77 Coordinators reported that the need to refer cases to another body to impose a sanction causes the process to take significantly longer than it does in the UK, where the process to impose a sanction is typically concluded within 6-8 weeks of a violation having occurred. In particular, the coordinators for France and Germany reported that the process to impose a sanction was very slow and time consuming for the parties involved.
- 4.78 There are also significant differences in the range of offences for which penalties may be imposed under national law:
- in the Netherlands, penalties can only be imposed for unauthorised operations in the night period;
 - in the UK, penalties can be imposed for off slot and no slot operations but cannot be imposed for late handback of slots, although they can be imposed for failure to hand back slots at all ('no shows');
 - in Germany, penalties can also be imposed for late handback of slots;
 - in Spain, penalties can be imposed for late handback and for artificial exchanges of slots.
- 4.79 Many of these variations reflect differences in the extent to which slot abuse represents a problem at the airports concerned. Although a significant weakness with the system in the Netherlands appears to be the lack of penalties for off slot or no slot operations except during the night period, this reflects the fact that the only significant capacity constraint is during the night period; off slot and no slot operations do not have a significant impact on the airport operations during the day, due to spare capacity being available.

Level of occurrence

- 4.80 The table below summarises number of sanctions that have been imposed for infringements by each coordinator. In many cases, the coordinator was not able to provide full details, as it is not the body responsible for imposition of sanctions.

TABLE 4.13 PENALTIES IMPOSED

Coordinator	Study airport(s)	Penalties imposed	Range of sanctions
ACL	London Heathrow, London Gatwick	11 at Heathrow and Gatwick in 2009/10 5 at other UK airports All penalties for ad-hoc operations	£1,000-£10,000 (€1,150-€11,500)
	Dublin	N/A	N/A
ACS	Stockholm Bromma	N/A	N/A
AENA	Madrid Barajas, Palma de Mallorca	20 fines have been imposed at Madrid, 4 at Palma de Mallorca, and 16 at other airports (since 2002).	No details available
Asso-clearance	Milan Linate, Rome Fiumicino	Assoclearance estimate 10-25 sanctions over 2000 to 2008 (responsibility of ENAC)	No details available
COHOR	Paris CDG, Paris	4 in winter 2009 season	Up to €200,000 for a series of

	Orly	(reduced from 8 in winter 2006)	slots
FHKD	Düsseldorf, Frankfurt, Munich	35 since penalty regime introduced (covers all German coordinated airports)	No details available, but up to the maximum (€50,000)
SACN	Amsterdam	24 in summer and winter 2007, but no sanctions required since	No details available
SCA	Vienna	No penalties imposed to date	No penalties imposed to date

4.81 ACL reported that the penalties that were imposed at the UK airports in 2009/10 were all for ad hoc operations, such as positioning flights and business aviation, which are operated either without a slot or off-slot.

4.82 Several coordinators including ACL, SACN and COHOR reported that the number of penalties imposed was declining, as the enforcement regime had been successful in deterring slot abuse.

Conclusions on operation of slot coordination

4.83 Most stakeholders believe that the system of slot coordination at EU airports is functioning well, that coordinators are independent in practice, and that sufficient information is provided by coordinators. However, there are some issues:

- the extent to which information is publicly available on capacity parameters, slot availability and allocation, and local rules varies significantly between coordinators, with some coordinators providing extensive information online and others providing nothing;
- in some Member States, aspects of how the coordination system is structured could be interpreted to limit the independence of the coordinator – although there is no evidence that there is a problem in practice; and
- there are differences in how business aviation is handled in different Member States, although at most coordinated airports, it operates using ad hoc slots or is not coordinated.

4.84 Most stakeholders also believe that slot monitoring and enforcement has been effective, where this is undertaken. However, there are also some issues with the slot monitoring and enforcement system:

- not all Member States have complied with the obligation in Article 14(5) to introduce sanctions for slot misuse: of the States evaluated, Sweden and Ireland have not introduced sanctions, and the Netherlands has only introduced sanctions in relation to night operations;
- the types of slot misuse for which sanctions can be imposed varies significantly between Member States;
- the frequency with which sanctions are imposed varies significantly, with sanctions being imposed much more often in the UK than in other Member States;
- in Austria, imposition of sanctions requires a criminal process, which means that sanctions are much more difficult to apply; no sanctions have been imposed in Austria; and
- although the Regulation allows for *ex ante* monitoring of the consistency of flight plans and airport slots, this only happens regularly in France, Germany and at

Madrid and Palma de Mallorca airports – other Member States, and Spain at its other airports, rely on *ex post* imposition of sanctions, where this is necessary.

- 4.85 This analysis covers the eight coordinators, and nine Member States, for the 15 airports analysed for the study. As discussed in section 2, this includes all of the main European hubs and the airports at which demand most significantly exceeds capacity. We have recorded issues at other airports and with other coordinators where this has been brought to our attention by stakeholders, but it is always possible that there are other issues at some of the other airports.

5. THE OPERATIONAL RESULTS OF THE REGULATION

Introduction

5.1 This section sets out the results of the second part of our review into the current situation, covering the operational results of the Regulation. This section summarises the following issues:

- the extent of slot mobility at the airports;
- secondary trading of slots, and the impact of this where it occurs;
- the impact of the new entrant rule;
- return of slots to the pool, and the issue of late handback; and
- slot utilisation and the application of the 80-20 rule.

Data received

5.2 There were significant differences in the scope of data that we received from different coordinators and airports, both in terms the types of information provided, and in terms of the time period covered. As a result, it is not possible to present all of the information in this section for all of the airports. In addition, some aspects of the analysis are not relevant at all airports; for example, the application of the new entrant rule is not relevant where slots are readily available through the pool, because (as discussed below) in these cases airlines tend not to claim new entrant status even when they would be entitled to do so. We have sought to show results for as many airports as possible and to the extent this adds value to the analysis.

5.3 A key limitation is that many coordinators have only been able to provide some or all of the data for around two years (two summer and two winter seasons) or less. There is no obligation on coordinators to retain data for longer periods and it is not required for their normal activities, but time series data is very useful for evaluating the impact that the Regulation has had. Parts of this analysis are therefore limited to the airports for which a longer time series of detailed data is available (London Heathrow, London Gatwick, Dublin, Madrid and Palma de Mallorca).

Slot mobility

5.4 Where we have sufficient data, we have calculated the extent of slot mobility at the sample airports. We have defined ‘slot mobility’ as the extent to which the airlines that held slots at the start of the period for which we have data still held the slots by the end. Table 5.1 below compares the extent to which the slots held in summer 2010 are equivalent to the slots held in summer 2007, for those airports for which we have this data. It also shows the total turnover at airports where we only have a shorter data series, although this is not comparable.

TABLE 5.1 SLOT MOBILITY SUMMER 2007 – SUMMER 2010

Airport	Total allocations S07	Absolute change in total allocations by carrier S07-S10	% change
Airports for which data available S07-S10			
Amsterdam Schiphol	291,913	38,208	13.1%
Dublin	129,405	21,756	16.8%
Düsseldorf	145,938	40,343	27.6%
Frankfurt	312,532	29,816	9.5%
London Gatwick	178,374	69,499	39.0%
London Heathrow	293,530	19,290	6.6%
Madrid Barajas	301,086	58,843	19.5%
Munich	295,853	51,789	17.5%
Palma de Mallorca	162,802	37,061	22.8%
Other airports for which data not available S07-S10			
Milan Linate	59,177 (S08)	8,864 (S08-S10)	14.7%
Paris CDG	375,191 (S09)	32,124 (S09-S10)	8.6%
Paris Orly	143,288 (S08)	15,241 (S08-S10)	10.6%
Rome Fiumicino	218,160 (S08)	45,844 (S08-S10)	21.0%
Stockholm Bromma	19,968 (S08)	10,840 (S08-S10)	54.3%
Vienna	188,360 (S08)	27,176 (S08-S10)	14.4%

Source: SDG analysis of coordinator data

5.5 At the most congested airports, there has been limited change in the allocation of slots during this period. The exceptions to this are:

- **Gatwick:** 39% of slots at Gatwick are operated by a different airline to that which operated the slots in 2007. This is a result of the substantial reduction in the number of British Airways flights, the sale of GB Airways and its slots from British Airways to easyJet, US carriers moving to Heathrow after the EU-US Open Skies agreement, and the growth of easyJet and other low cost carriers.
- **Düsseldorf:** 28% of slots at Düsseldorf are operated by a different airline in 2010 to 2007; however this change is mostly due to the acquisition of DBA by Air Berlin.

5.6 At the more congested airports, most slots are allocated on the basis of historic preference (Table 5.2) below³¹.

³¹ Note that, at Heathrow and Gatwick, the percentage of slots allocated on the basis of historic preference includes slots transferred due to secondary trading

TABLE 5.2 HISTORIC SLOTS

Airport	Historics as % of total allocation	Period covered by data
Dublin	82.5%	S06-W10
Düsseldorf	87.4%	W09-S10
Frankfurt	91.6%	W09-S10
London Gatwick	88.5%	S06-W10
London Heathrow	99.1%	S06-W10
Madrid Barajas	85.5%	W05-S10
Munich	90.9%	W09-S10
Palma de Mallorca	74.1%	W05-S10
Paris CDG	89.7%	W08-S10
Vienna	83.7%	W07-W10

Source: SDG analysis of coordinator data

Secondary trading

Secondary trading at the sample airports

- 5.7 The Regulation allows exchanges of slots between airlines, but is not explicit as to whether these can be accompanied by monetary or other considerations. In addition, whilst the Regulation does not specifically allow buying and selling of slots, it does not explicitly prohibit this. The Commission announced in its 2008 Communication that it did not intend to pursue infringement proceedings against States which allowed secondary trading in slots provided this was undertaken in a transparent manner.
- 5.8 The main way that buying, selling and leasing of slots occurs is through ‘fake’ or ‘artificial’ exchanges. In order to undertake (in effect) a purchase of a slot, the purchasing carrier applies for a valueless slot (such as a slot at 0400) which can be freely obtained from the coordinator through the pool. This is exchanged for the slot that it wishes to purchase. The selling carrier then nominally acquires the valueless slot, but does not operate it. In addition to fake exchanges, transfers of slots within the same owning group are explicitly permitted, and leases can in effect take place through ‘joint operations’ under Article 10(8) of the Regulation, discussed below.
- 5.9 Table 5.3 summarises the current position with secondary trading at the sample airports. Secondary trading primarily occurs at London Heathrow and, to a lesser extent, Gatwick. It is not transparent whether secondary trading occurs at other EU airports but the slot coordinators have identified that ‘fake exchanges’ have occurred at Frankfurt, Düsseldorf and Vienna. These are likely to be accompanied by considerations, although as discussed below these considerations are not necessarily monetary, and some of the air carriers involved denied that there had been any payments. Slot leases are also taking place at some other EU airports under the mechanism created by Article 10(8).

TABLE 5.3 SECONDARY TRADING AT THE SAMPLE AIRPORTS

Airport	Secondary trading occurring
Amsterdam Schiphol	Some joint operations have occurred between alliance partners, but not other trades. Slots available through the pool for most of the day.
Dublin	Not occurring; slots readily available through pool for most of day.
Düsseldorf	'Fake exchanges' have occurred, which implies that there may be monetary payments, but this is denied by airlines involved.
Frankfurt	'Fake exchanges' have occurred, which implies that there may be monetary payments, but this is denied by airlines involved.
London Gatwick	Extensive secondary trading occurs, although currently only morning peak slots have significant monetary value (see below)
London Heathrow	Extensive secondary trading occurs (see below)
Madrid Barajas	Not occurring – not permitted under Spanish law (Article 49 of the Aviation Security Law 21/2003). Also due to major expansion in 2005-6 and subsequently the downturn in traffic, slots are available through pool.
Milan Linate	Coordinator believes that no trades have occurred. A large airline informed us that it had been approached about potential trades but the coordinator refused to recognise exchanges and therefore could not proceed. There is at least one 'joint operation' (British Airways operating using a Meridiana slot) which in effect is a lease (see below).
Munich	No evidence of slot trading occurring
Palma de Mallorca	Not occurring – not permitted under Spanish law (Article 49 of the Aviation Security Law 21/2003). Also slots available through pool except for some limited times (peak summer Saturdays).
Paris CDG	No evidence of slot trades during the day. Coordinator reports unsuccessful attempt to sell slots by one carrier, but estimated value very low in comparison to Heathrow or Gatwick (€5,000). Night slots have significant value and therefore it is possible (but unclear) that exchanges of day for night slots may have been accompanied by payments.
Paris Orly	Not possible to undertake 'fake exchanges' currently necessary for sale or lease of slots, due to absolute cap on number of slots that can be allocated. Monetary value nonetheless ascribed to Orly slots obtained as a result of acquisitions ³² .
Rome Fiumicino	Coordinator believes that no trades have occurred.
Stockholm Bromma	Coordinator believes that no trades have occurred at Bromma or any other Swedish airport
Vienna	Fake exchanges have occurred. Coordinator will in the future ask airlines to state whether payments involved.

5.10 Despite the Commission's 2008 Communication, slot trading is still mostly limited to London Heathrow and Gatwick airports. The coordinator, ACL, has recently created a website showing details of slot trades (slottrade.aero), which shows the slot trades that have taken place during the summer 2010 season. Slot trades in summer 2010 are shown in Table 5.4 below.

³² British Airways attributes a value on its balance sheet to the Orly slots obtained as a result of its acquisition of L'Avion

TABLE 5.4 SLOT TRADES AT HEATHROW AND GATWICK

From	To	Transaction date	Slots / week	Description
Heathrow airport:				
BMI	British Airways	28-Mar-2010	7	Return of various slots (Inconsistent times)
BMI	Swiss	28-Mar-2010	84	Six daily slot pairs (Cont from Winter 2009)
BMI	Brussels Airlines	28-Mar-2010	50	Approx four daily slot pairs, missing some weekend frequencies (Cont from Winter 2009)
BMI	Aegean Airlines	28-Mar-2010	28	Daily midday and evening slot pairs (Cont from Winter 2009)
Virgin Atlantic	Aer Lingus	28-Mar-2010	42	Three daily slot pairs (Cont from Winter 2009)
Continental	Air Canada	28-Mar-2010	14	Return of daily morning slot pair from Summer 2009
Gulf Air	Turkish Airlines	28-Mar-2010	14	Daily evening slot pair
BMI	Blue1	28-Mar-2010	12	Six weekly overnight slot pairs (excludes overnight Saturday)
BMI	Arik Air	28-Mar-2010	10	Five weekly evening slot pairs (Cont from Winter 2009)
Rossiya	Aeroflot	28-Mar-2010	2	Saturday morning slot pair
Lufthansa	BMI	28-Mar-2010	42	Three daily slot pairs
Austrian Airlines	BMI	28-Mar-2010	14	Daily overnight slot pair
Lufthansa	BMI	28-Mar-2010	14	Daily midday slot pair
Iberia	British Airways	28-Mar-2010	42	Three daily slot pairs (Cont from Winter 2009)
United Airlines	Continental	28-Mar-2010	14	Daily morning slot pair
Air India	Egypt Air	28-Mar-2010	4	Early afternoon slot pair (Saturday/Sunday only)
Japan Airlines	SAS	28-Mar-2010	14	Daily afternoon slot pair
Gatwick airport:				
Cimber Air	Thomson Airways	28-Mar-2010	17	Return of daily (except Sunday) morning slot pair. Daily (Except Saturday) evening slot pair
Aer Lingus	British Airways	28-Mar-2010	70	Return of 5 x daily slot pairs
Aer Lingus	Continental	27-Mar-2010	14	Return of daily slot pair
Continental	easyJet	28-Mar-2010	14	Daily morning slots pair
British Airways	Aer Lingus	28-Mar-2010	83	5 X daily slot pairs plus various slots
Aer Lingus	Delta Airlines	28-Mar-2010	14	Daily morning slots pair
Flybe	Astraeus	28-Mar-2010	4	Saturday and Sunday afternoon slot pair
British Airways	Transavia	28-Mar-2010	26	Daily morning (except Saturday) slot pair. Daily afternoon slot pair

From	To	Transaction date	Slots / week	Description
Viking	Astraeus	28-Mar-2010	4	Saturday morning slot pair. Saturday and Sunday departure slot
BMI	Lufthansa	28-Mar-2010	28	Two daily slot pairs

Source: ACL (slottrade.aero)

- 5.11 With respect to other airports not included in the study sample, it might be expected that secondary trading would have occurred at London City airport, given that slot trading is common in the UK, demand exceeds capacity at peak times, and slots appear to have a value (indicated by the purchase of VLM by Air France-KLM). However, the coordinator informed us that there was no evidence of trades having actually occurred at London City.

Babysitting and slot leases

- 5.12 The Regulation does not explicitly allow for temporary exchanges of slots, which would be necessary for slot leases. However, in order to effect a lease of a slot, the carriers involved contract to undertake an exchange but then to reverse the exchange at a later date. Lease contracts typically contain provisions requiring the leasing carrier to use the slot, so as not to lose the slot under the 80/20 rule, not to change the nature of the slot (for example by switching it to another time), and to return the slot at a specific date or pay compensation.
- 5.13 We were informed that some lease contracts at London Gatwick have not involved any payments but a carrier wishing to cease to operate services at the airports has used these to transfer its slots whilst retaining the right to operate in the future.
- 5.14 In addition, a further way that slot leases occur, in effect, is through a joint operation of a flight, which is explicitly permitted under Article 10(8) of the Regulation. This allows a carrier to operate a flight using the slots of another carrier, where it has a cooperative agreement with it. This is defined under Article 2(f)(ii) as being a codeshare or franchise agreement, but there is a very wide range of codeshare agreements possible, and there is variation in the extent of the alliance that coordinators require to qualify as a joint operation: ACL informed us that it interprets this as requiring an extensive commercial agreement such as a joint venture, whereas we have identified a joint operation at Milan Linate involving very limited co-operation. The carrier giving up the slot could receive a payment but may receive a revenue share through the joint venture. Examples of slot exchanges using the joint operations clause include:
- Delta operates services at Amsterdam Schiphol using KLM slots, and at Heathrow using both Air France and KLM slots. This is part of an extensive commercial agreement: Delta, Air France and KLM operate a joint venture for transatlantic services with anti-trust immunity, and revenue and costs for these services are shared. Although joint operation is not clearly defined, it is hard to envisage how an operation could be more ‘joint’ than this, and therefore this must meet the requirements of the Regulation.
 - British Airways operates two daily flights from Milan Linate to Heathrow using slots at Linate held by Eurofly, now owned by Meridiana. The coordinator has

been informed by the carriers that this is a codeshare and hence a joint operation, but the scope of the commercial agreement appears to be very limited, as the service is not listed as a codeshare on Amadeus or other booking systems, and Meridiana does not market the flights on its website.

5.15 ‘Babysitting’ occurs where a carrier holds slots which it cannot, or does not want to, operate but does not want to give up, and therefore finds another carrier to operate the slot for a period but contract to return the slot at the end of the period. Babysitting may sometimes also be used to refer to cases where a carrier operates a slot itself, using small aircraft on a short distance route, even though this is not a profitable use of the slot, in order to retain the slot for more profitable use later. A babysitting contract, which is equivalent to any other lease contract, may involve a payment to the original holder of the slot but could involve payments to the babysitting operator, or (commonly) no payment at all. The main circumstances this can arise are:

- during a traffic downturn, a carrier may seek to reduce frequencies particularly on long haul routes, as the costs – and hence losses – from operating may be greatest; and
- when a carrier is unable to operate a service for a specific time, sometimes for reasons outside its control, such as late delivery of aircraft or political or social disturbance at the destination³³.

5.16 Although babysitting is not transparent, as all that can be seen by the coordinator or other parties is that the slot has been exchanged or that the use of the slot has changed, some of the changes in slot holdings at Heathrow in winter 2009/2010 during the global financial crisis strongly imply babysitting, as some short haul carriers have increased operations and long haul carriers reduced. Table 5.5 shows that Virgin Atlantic reduced its slot holding considerably and Aer Lingus increased it. It is very unlikely that Virgin Atlantic would have given up its slots permanently, or that Aer Lingus would have been able to buy slots given its constrained financial position.

TABLE 5.5 VIRGIN ATLANTIC AND AER LINGUS HEATHROW SLOTS PER SEASON (WINTER SEASONS)

Carrier	W06	W07	W08	W09	W10
Aer Lingus	5,754	6,026	6,028	6,026	6,636
Virgin Atlantic	5,754	6,752	7,480	7,172	5,992

Slot valuations

5.17 There is no requirement on carriers to release information on the amount paid for slots. Therefore, estimates of slot prices depend on information that is released by airlines. Published prices for slots include³⁴:

³³ An example given of this was the Israel Lebanon war in 2006 – in this case the carrier operating from Heathrow to Beirut, was not able to find anyone to ‘babysit’ the slots

³⁴ These figures are reported in pounds sterling rather than euros, due to the substantial changes in £:€ and £:US\$ exchange rates in the period covered by these exchanges

- The highest known price was paid by Continental Airlines in 2008, which paid US\$209 million (at the time, about £110 million) for four daily slot pairs at Heathrow, equivalent to £27.5 million per slot pair, used to launch two daily services to each of Newark and Houston. This information is in the public domain because Continental disclosed it in a filing to the Securities and Exchange Commission. The slots were acquired from GB Airways, Air France and Alitalia.
 - Prior to this, the highest publicised price was paid by Qantas in 2004, which paid £20 million for two daily slot pairs acquired from Flybe, equivalent to £10 million per slot pair.
 - In 2003, British Airways paid £12 million for a two daily slot pairs held by United Airlines. It was reported that these were sold through an auction³⁵.
 - In 2008, Etihad paid £9 million for a 5 year lease of Heathrow slots from Luxair³⁶.
- 5.18 ACL informed us that prices for Heathrow slots are determined primarily by the arrival time. This is because virtually all flights from the US must, due to the time difference, operate overnight and hence arrive in the morning³⁷; in contrast flights can depart from Heathrow to the US at almost any time of day (there are departures to New York from 0830 to 2030). There is also a strong preference for early morning arrivals for flights from East Asia: the majority of flights from Hong Kong, Singapore and Bangkok also operate overnight and arrive before 0700, but departures are spread from around 1130 until 2230. As a result, slot valuations at Heathrow are highest in the early morning and decline throughout the day.
- 5.19 ACL estimates market prices as follows:
- pre 0900 arrivals: £30-40 million (currently €35-46million)
 - 0900-1300 arrivals: £10 million (€11.5 million)
 - post 1300: low value, as not appropriate for most long haul routes and can sometimes be obtained through slot pool
- 5.20 The Continental transaction, for four slot pairs for an average of £27.5 million per pair, implies prices slightly above this range, as only two of the four pairs Continental purchased were for peak arrivals, the others being at 1305 and 2020. However, this transaction is viewed as exceptional and in the context of the one-off movement of US airlines to Heathrow after the EU-US Open Skies agreement.
- 5.21 ACL also estimated that the price for early morning arrivals had remained approximately unchanged despite the traffic downturn caused by the global financial crisis, but prices for slots later in the day had declined significantly from a range of £5-10 million (€6-11 million).
- 5.22 Slot values at Gatwick are much lower and have been volatile due to the downturn in traffic arising from the financial crisis, and the shift of US carriers to Heathrow after

³⁵ The Scotsman, October 2003

³⁶ Travel Weekly, June 2008

³⁷ There are also a small number of flights which operate during the day and arrive around 2030-2130, but this is unattractive for business passengers and in terms of aircraft utilisation.

the EU-US Open Skies agreement. At present, only early morning slots at Gatwick have a monetary value, as slots at other times can be obtained through the pool. The value of early morning slots at Gatwick is driven by different factors to Heathrow: by obtaining an early morning slot, a carrier can add another aircraft to its Gatwick-based fleet and operate the aircraft on routes to/from the airport throughout the day. Therefore, by purchasing or leasing an early morning departure slot, a short haul carrier can add three arriving and three departing flights per day.

5.23 There is little public information available on slot prices at Gatwick. The only significant information we have identified relates to the easyJet acquisition of GB Airways in 2007/8. easyJet paid £103.8 million to acquire GB Airways which had 28 summer slot pairs at the airport. easyJet confirmed to us that the main value in GB Airways was its Gatwick slot holding, and on its balance sheet values the slots as £72.4 million, equivalent to £2.6 million (currently €3.1 million) per slot pair. However, it should also be noted that this acquisition was announced on 25 October 2007, one year before the global financial crisis, and before the US carriers had announced their moves to Heathrow, although after the EU-US Open Skies agreement was signed. We understand that the value of Gatwick slots has declined considerably since. In November 2008, easyJet's founder and largest shareholder, Sir Stelios Haji-Ioannou, refused to approve the company's accounts, partly on the basis that the Gatwick slots had lower or potentially zero value³⁸.

5.24 Many slot exchanges involve non-monetary considerations, such as agreements relating to codeshares, ground handling or marketing, or transfers of slots at other airports. Therefore, the level of payments or lack of payments, alone does not indicate the full potential value of the commercial transaction that is taking place³⁹. In addition, slot exchanges at different airports may be linked as part of a single transaction: for example, British Airways has acquired Heathrow slots from central European carriers such as Malev but given them Gatwick slots at the same time.

Air carrier approach to slot valuations

5.25 The number of slot transactions is relatively low and slot values are not transparent. In part, this is because values may vary greatly between carriers, depending on small variations in timing: for example, a slot which allows connection into a 'bank' of flights at a carriers' hub may be valuable whereas a slot even 30 minutes early or later might have no value to that carrier.

5.26 As part of the interviews undertaken for this study, we asked carriers that were involved in slot trading how they valued slots for the purposes of trading. Many were not willing to discuss this, citing confidentiality, but those that did stated:

- A network carrier stated that it looked at both what it had paid for other slot purchases, to ensure the potential acquisition was value for money, and network

³⁸ easy.com, 18 November 2008: Statement from Stelios in response to easyJet PLC final results (RNS)

³⁹ British Airways accounts for financial year 2008/9 show that of additional landing rights (slots) acquired worth £44 million, only £12 million were paid for in cash

contribution (marginal contribution after aircraft cost changes and impacts on onward connecting revenue) with and without the slot. The rationale for the use of network contribution data is that the alternative to buying a slot is to cancel the weakest service on equivalent slots and use those slots instead; therefore, slot valuations are actually driven by contribution from short haul services, even though acquired slots would be used for long haul.

- Another network carrier said that a net present value approach would be used, comparing network revenue and cost with and without the acquisition. However, it also stated that slot values would be significantly discounted due to uncertainty about traffic growth, possible future capacity expansion which would reduce slot values, and the risk of regulatory changes.
- A major point-to-point carrier informed us that the analysis would be based on the net present value of the profit obtained from operating additional services, calculated with an 8% discount rate and requiring a 15% return. This implies that an airline might pay around €5 million for a slot pair for a service with operating costs of €10 million per year which generated an operating profit of €2 million per year. Other airlines informed us that carriers would generally seek to make a return on an asset such as slots over a short period, which would imply a lower valuation.

5.27 In addition, it was pointed out that some slot purchases may not be financially positive, in some cases at all, and in others if measured purely across the routes concerned. Airlines suggested that some non-EU airlines may have purchased Heathrow slots for the following reasons:

- There might be indirect impacts on revenue on other routes, because airlines would be in a stronger position to negotiate network-wide deals with corporate customers if the airport was included in its network. An example was given to us of a network airline operating a long haul route despite it being persistently unprofitable, because it was required by corporate customers who otherwise would not use the airline at all.
- Some (particularly government-backed) carriers might not require a commercial return on a slot acquisition – or potentially on other purchases. Some EU carriers suggested that Heathrow slots were a ‘trophy’ for government-backed non-EU carriers.

5.28 Most airlines expected slot values at Heathrow and Gatwick to increase in the future, as demand is expected to increase but runway capacity is not. At other airports, where capacity expansion is planned (such as Frankfurt) slot values were expected to reduce. Airlines expected slots at other airports to have little or no value.

Restrictive covenants

5.29 A 2005 report by the air transport working group of the European Competition Authorities recommended prohibition of restrictive covenants attached to slot exchanges, such as non-competition agreements, although did not cite any actual examples of these covenants⁴⁰.

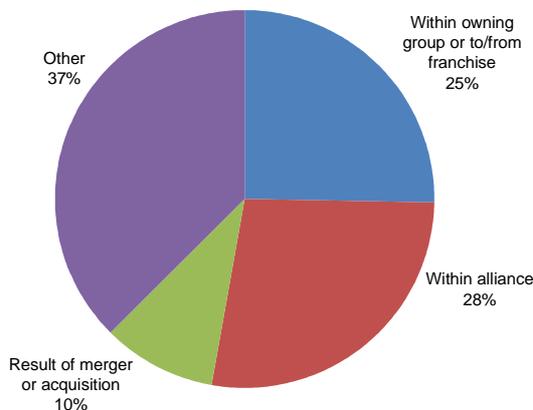
⁴⁰ Progress Report of the Air Traffic Working Group on Slot Trading, European Competition Authorities, 2005

5.30 Lease contracts commonly contain some restrictions on how a slot can be used, to ensure that an equivalent slot can be returned to the lessor at the end of the lease. However, we found no evidence of any anti-competitive restrictive covenants. Many airlines and coordinators believed that such covenants would infringe Article 101 of the Treaty and national competition law, and therefore considered the fact that the Regulation did not explicitly prohibit them to be irrelevant - although this may also have influenced airlines' unwillingness to discuss the existence of such covenants. One airline, which has been involved in a number of slot purchases and leases, said that it believed such covenants did exist but it had never been offered slots subject to such a restriction and it had been advised that any such restriction would be unenforceable.

Trades between competitors and alliances

5.31 Although most of the trades shown in Table 5.4 above are within the same owning group or alliance, this is distorted by the recent acquisition of BMI by Lufthansa; measured over the last 10 years, a significant proportion of trades was not within alliances. If transfers within the same owning group are excluded, as these are explicitly permitted by Article 8(1)(b)(ii) of the Regulation, the number of slots traded between alliances is actually higher than the number within alliances (Figure 5.1 below).

FIGURE 5.1 NATURE OF HEATHROW TRADES 2001-10



Source: SDG analysis of ACL data

5.32 ACL has identified cases where alliance partners have competed with each other to buy slots, and believes that because of the high value of peak Heathrow slots, the priority of a carrier selling peak slots is to obtain the highest price, not to assist an alliance partner. For example:

- it was reported that, in the case identified below when Qantas paid £20 million in 2004 to acquire Heathrow, it outbid its alliance partner British Airways, as well as competitor Virgin Atlantic;
- British Airways has purchased slots from SkyTeam carriers CSA and Alitalia, as well as Star Alliance carriers BMI and United Airlines; and
- since 2001, there have been five trades, covering 99 weekly slots, between British

Airways and Virgin Atlantic⁴¹, despite the fact that these carriers are strong (and often bitter) competitors.

Impact on market concentration

- 5.33 Competition authorities usually assess competition in air transport on a route-specific basis, for example recently in the British Airways/American Airlines/Iberia joint venture case, the competitive impacts of the joint venture were evaluated individually on each route, and the remedies that were imposed are mostly route-specific. Figure 5.2 shows the trends in market concentration, measured using a Herfindahl index, on a sample of the larger routes from Heathrow in terms of passenger numbers⁴².
- 5.34 This demonstrates that the route-specific impact of trading is mixed. Trading has enabled more competition on some long haul routes, such as the route to New York (the largest long haul route from the airport in terms of passenger numbers): secondary trading allowed significant market entry on this route after the EU-US Open Skies agreement. However, secondary trading has reduced competition on some short haul routes as airlines have withdrawn and either sold slots or redeployed them to other routes: concentration on the Heathrow to Paris and Amsterdam routes has increased because BMI withdrew: its slots have been sold or leased to other Star Alliance airlines. The picture is not uniform: on some short haul routes, concentration has reduced (Milan), and on some long haul routes, concentration has increased (Mumbai).

FIGURE 5.2 ROUTE SPECIFIC TRENDS IN MARKET CONCENTRATION

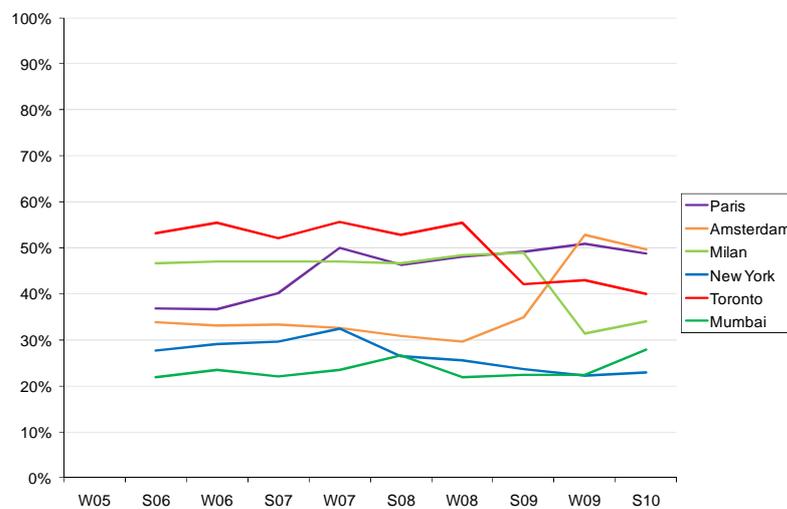


Figure shows trends in Herfindahl index on each route, by season

Source: ACL data, SDG analysis

⁴¹ Source: SDG analysis of ACL data

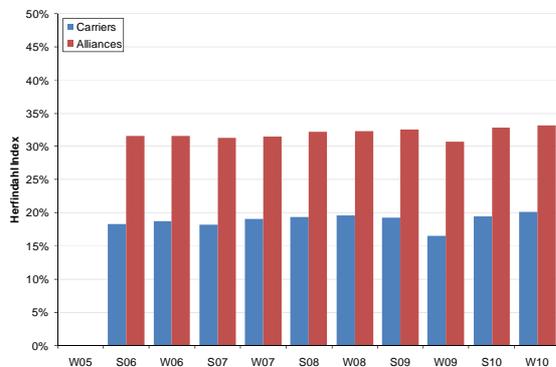
⁴² The Herfindahl index is a common measure of market concentration. It is the sum of the squares of the market shares of each competitor - for example if there is a market with two competitors A and B with a share of 60% and 40% respectively, the Herfindahl index is 0.52 ($0.6^2 + 0.4^2$). Within this section market share is defined as share of slots.

- 5.35 Figure 5.3 below shows the trend in total market concentration at airports where secondary trading occurs, and a sample of other airports, measured both in terms of individual airlines and airline alliances. This indicates that secondary trading has had little impact, positive or negative, on concentration.
- 5.36 There has been a slight increase in concentration at Heathrow since 2006, but the impact is marginal. There has also been an increase in concentration at Gatwick but this is entirely accounted for by the purchase of GB Airways by easyJet, not by secondary trading; without this acquisition, the degree of concentration in 2010 would be equivalent to 2006. At similarly congested airports at which secondary trading does not occur, trends vary: Düsseldorf airport has become more concentrated, due to the acquisition of DBA by Air Berlin but from a relatively low base; whereas concentration at Frankfurt is unchanged, but from quite a high base level. At Orly and Linate, there is not a sufficient time series of data available to evaluate a trend in concentration.
- 5.37 At other airports, concentration has increased at Dublin and Schiphol despite the fact that spare capacity is available (due to the growth of Ryanair at Dublin and the increased share of KLM at Schiphol). However, concentration has reduced in Madrid as, further to the significant expansion in capacity that occurred in 2005-6, carriers such as easyJet and Ryanair have established bases at Madrid, primarily competing with Iberia and its partners.

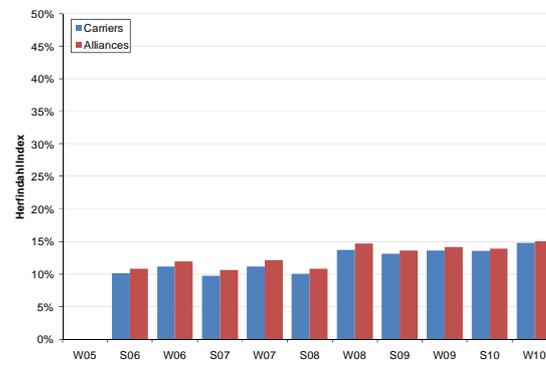
FIGURE 5.3 TRENDS IN OVERALL CONCENTRATION

Congested airports at which secondary trading occurs:

London Heathrow:⁴³



London Gatwick:

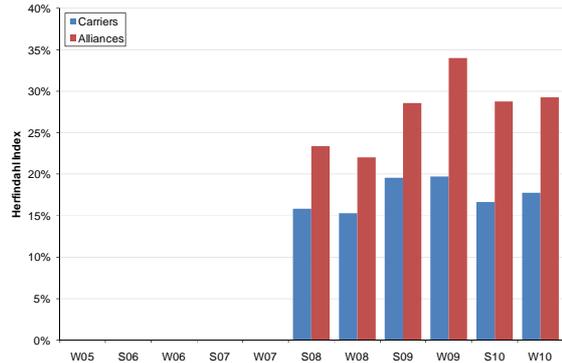
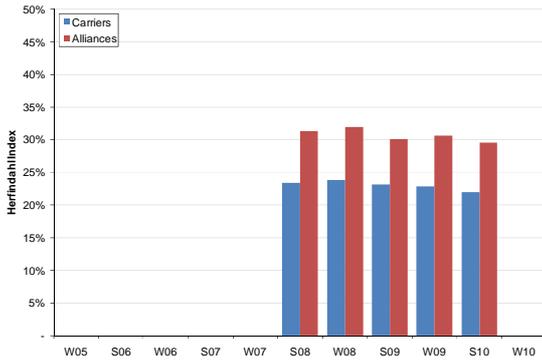


Airports at which secondary trading does not occur and capacity is restricted for most of the day:

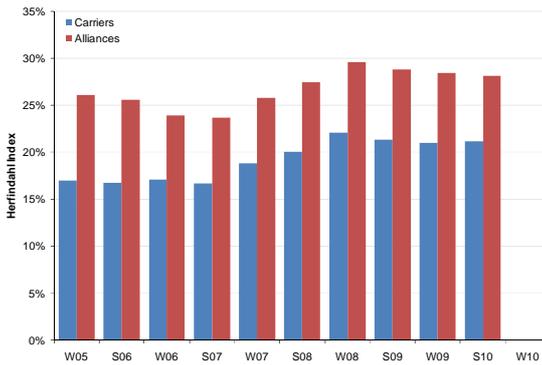
Paris Orly:

Milan Linate:

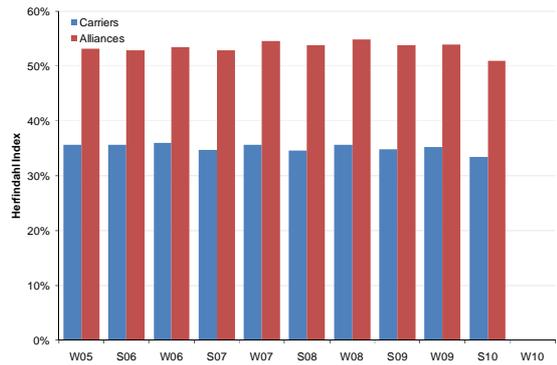
⁴³ Note the apparent decline in market concentration in winter 2009 is believed to be an issue with the data not a genuine market change. ACL has now provided updated data for winter 2009 but this was received too late to include in this report.



Düsseldorf:

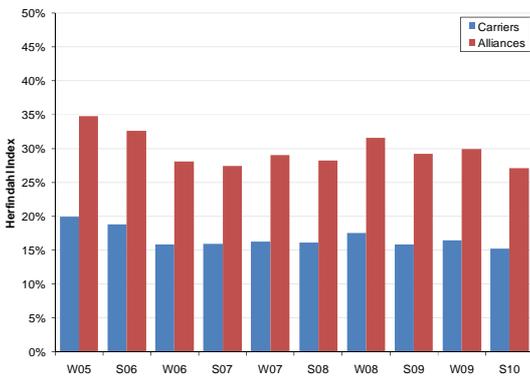


Frankfurt:

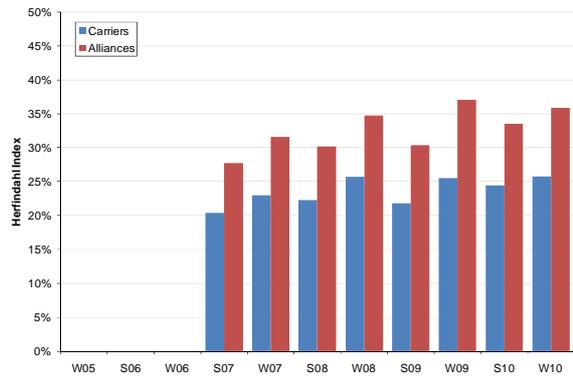


Airports at which secondary trading does not occur and significant spare capacity available:

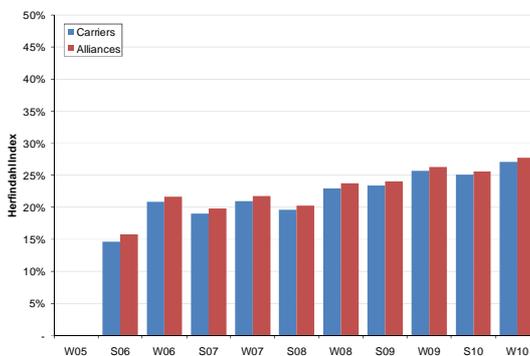
Madrid Barajas:



Amsterdam Schiphol:



Dublin:



Source: SDG analysis of coordinator data and OAG

Slot hoarding
The report by the National Competition Authorities on secondary trading referenced above

identified a potential problem of ‘slot hoarding’ – airlines holding slots, even though they cannot use them profitably, with the primary objective of preventing other airlines from entering the market or from expanding. This problem could be exacerbated by secondary trading, as it provides a means for dominant incumbents to acquire more slots. However, secondary trading also increases the opportunity cost of slot hoarding, so it is not clear whether it would make the problem better or worse.

Airlines have not been willing to share with us route-specific profitability data which would enable us to identify specific cases of slot hoarding. However, network airlines did explain which routes tend to be least profitable:

- short haul routes, particularly those with smaller aircraft;
- routes that do not provide significant ‘feed’ into long haul flights; and
- routes with lower proportions of business traffic.

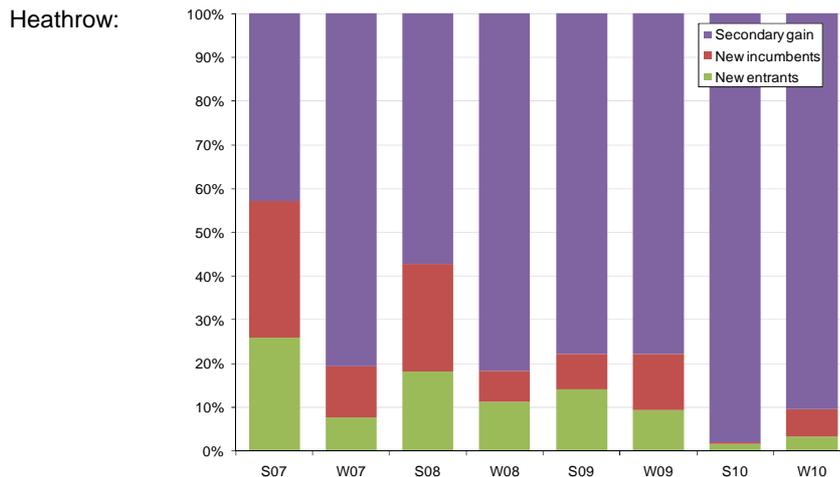
This implies that slot hoarding is more likely to be occurring where the following criteria are met:

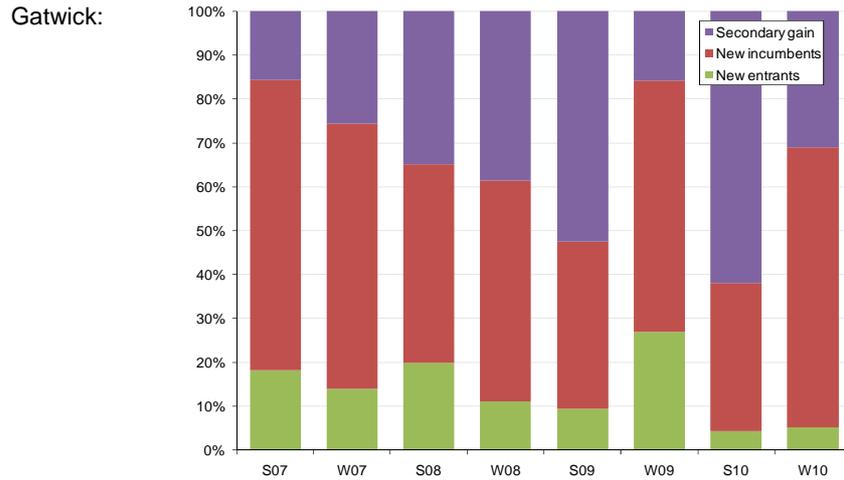
- a network airline or alliance has a high market share
- slots are not readily available for entrants to expand services
- aircraft sizes are lower than at other airports with similar capacity constraints, particularly if the aircraft size of the dominant carrier is lower than the aircraft size of other carriers at the airport
- the composition of the traffic at the airport concerned is such that it includes a higher proportion of lower yield traffic (for example, if it is not the main long haul hub of the main airline, or does not service specific high yield markets e.g. city centre airports)

Impact of secondary trading on slot mobility

5.38 Figure 5.4 shows the proportion of slot movements between airlines at Heathrow and Gatwick that resulted from trades as opposed to new entrant or new incumbent allocations by the coordinator. The vast majority of slot acquisitions at Heathrow have been through secondary trading, whereas at Gatwick, about 60% of slot acquisitions have been from the pool. As discussed above, only morning peak slots at Gatwick currently have significant monetary value.

FIGURE 5.4 PROPORTION OF SLOT EXCHANGES DUE TO SECONDARY TRADING





Source: SDG analysis of ACL data

5.39 It is not possible to prove how many of these slot movements would have taken place without secondary trading, and some may not have involved payments, for example, because they were within the same airline owning group. However, in several cases, airlines have given up slots at Heathrow to move to different airports: for example, Malev moved to Gatwick and Luxair and Swiss moved to London City. It is unlikely that they would have done this if they had not been able to obtain revenue from the sale or lease of their Heathrow slots. In contrast, at Gatwick, most slot acquisitions were from the pool and the value of slots is much lower, and therefore it is likely that many exchanges would have taken place even without secondary trading.

5.40 Therefore, secondary trading appears to have contributed significantly to slot mobility at Heathrow, but much less at Gatwick.

Impact on types of airline operating services

5.41 We have identified what types of carrier have obtained slots at Heathrow and Gatwick during this period through secondary trading. Table 5.6 below shows the change in slot holdings, excluding increases in slots due to allocation of slots from the pool, by carrier type between summer 2006 and summer 2009. 2010 is excluded from this analysis as there is extensive ‘babysitting’ (discussed above) due to the financial crisis, which would distort the results. At Heathrow, most slots were acquired by non-EU airlines for long haul services; at Gatwick, most slots were acquired by low cost airlines (particularly easyJet).

TABLE 5.6 IMPACTS OF SECONDARY TRADING BY TYPE OF AIRLINE

Carrier Type	Estimated gains through secondary trading		Estimated losses through secondary trading and returns to pool ⁴⁴	
	Gatwick	Heathrow	Gatwick	Heathrow
Network airlines (based)	2.2%	22.9%	32.9%	30.4%

⁴⁴ Slot allocation data does not allow us to distinguish losses of slots through secondary trading, and return of slots to the pool

Network (other EU)	6.6%	13.6%	4.4%	23.2%
Network (non-EU)	3.8%	60.6%	14.7%	44.6%
Charter	27.3%	-	36.0%	-
Low cost	60.1%	1.6%	11.3%	1.5%
Cargo	--	1.4%	0.7%	0.2%

Source: SDG analysis of ACL data

Impact on aircraft size

- 5.42 Most stakeholders that supported secondary trading did so because they considered it would lead to a more efficient use of capacity, with larger aircraft and higher load factors replacing smaller aircraft with lower load factors. Often it was expected that there would be a switch from short haul to long haul, although this clearly has not been the case at Gatwick in recent years, as further to the EU-US Open Skies agreement, US carriers bought slots at Heathrow and sold slots at Gatwick.
- 5.43 We have evaluated the extent to which slot exchanges at Heathrow and Gatwick which appear to be trades have resulted in increased aircraft size. This is done by comparing the seats added by carriers who have obtained slots through trading with the seats removed by carriers who have given up slots, adjusted for any changes in the average aircraft size of each carrier. There is some uncertainty about this analysis as it is not possible to tell from the slot data which carriers gave up slots due to secondary trading and which returned slots to the pool; however, the data does show that the large majority of slot transfers at Heathrow and a significant proportion at Gatwick occurred due to secondary trading.
- 5.44 Table 5.7 below shows that airlines gaining slots through secondary trading at Heathrow on average used aircraft with 11% more seats than airlines giving up slots. This indicates secondary trading has increased the number of passengers that can be handled at Heathrow. At Gatwick, airlines gaining slots had slightly lower aircraft sizes than airlines losing slots, but this was caused by US carriers moving to Heathrow and so this trend would have occurred, and might have been greater, without secondary trading.

TABLE 5.7 AVERAGE AIRCRAFT SIZE FOR AIRLINES EXCHANGING SLOTS⁴⁵

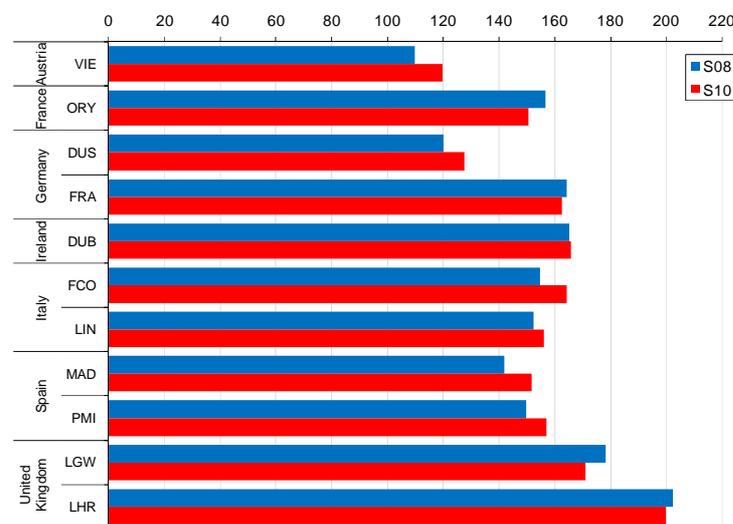
	Heathrow	Gatwick
Airlines gaining slots through secondary trading	193.4	160.5
Airlines net losing slots	256.7	177.7
Increase in aircraft size achieved	+32.7%	-9.7%
<i>Excluding impact of US carriers giving up slots</i>		-0.3%

Source: SDG analysis of ACL data

⁴⁵ Data covers trades between summer 2007-9; figures for 2010 excluded as these are impacted by 'babysitting' of slots due to global financial crisis

5.45 We have also evaluated the extent to which the airports at which secondary trading occurs have more efficient utilisation of slots than at other similarly congested airports. If capacity is scarce, the more economically efficient use of the capacity will be operations with larger aircraft, as this allows more passengers to travel per slot. Figure 5.5 below shows that significantly larger aircraft are used at the London airports, at which there is secondary trading, than the other airports in the sample. Aircraft size is particularly low at Düsseldorf and Vienna, although it increased significantly between 2008 and 2010. Aircraft size declined slightly in 2010 at Heathrow due to ‘babysitting’ during the economic crisis, and at Gatwick due to long haul services moving to Heathrow. However, aircraft size at Heathrow and Gatwick is still higher than any of the other airports, and aircraft size also declined at Orly and Frankfurt, which also have severe capacity constraints but little or no secondary trading.

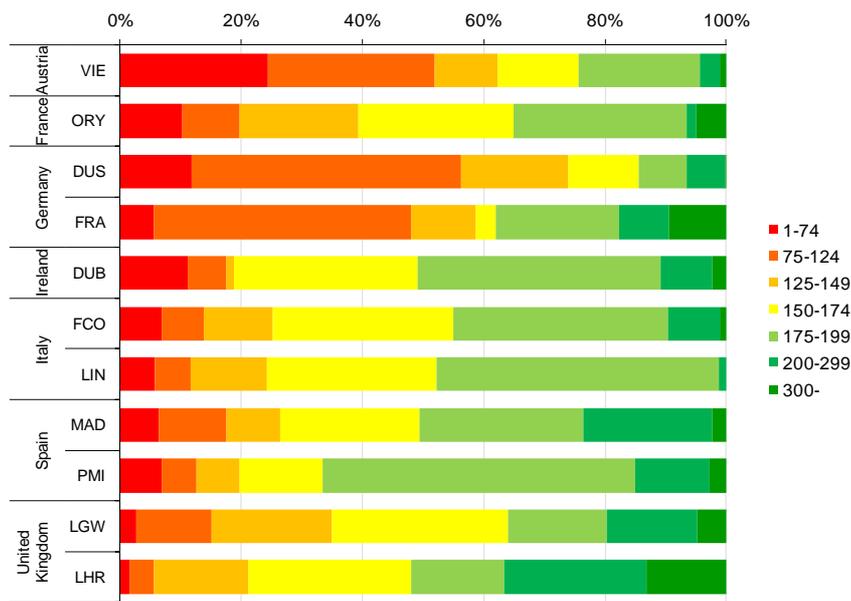
FIGURE 5.5 AVERAGE AIRCRAFT SIZE, MOST CONGESTED AIRPORTS



Source: SDG analysis of coordinator data (OAG data for Orly, Düsseldorf and Frankfurt)
Excludes cargo only flights

5.46 Use of the smallest aircraft at very congested airports is unlikely to be an efficient use of capacity. Figure 5.3 below shows that whilst passenger aircraft with less than 75 seats account for 1.5% of slots at Heathrow and 2.7% at Gatwick, these account for 12% of slots at Düsseldorf, 6% at Frankfurt and 10% at Orly, despite the severe capacity constraints at these airports. The relatively high number of small aircraft used at the German airports results from the extensive use of Canadair regional jets and other small aircraft by Lufthansa’s regional subsidiaries and partner carriers, Eurowings, Lufthansa Cityline and Augsburg Airways.

FIGURE 5.6 SLOTS BY AIRCRAFT SIZE CATEGORY



Source: SDG analysis of coordinator data (OAG data for Orly, Düsseldorf and Frankfurt)
Excludes cargo only flights

Impact on regional services

5.47 A potentially negative impact of secondary trading is the incentive which it may offer for carriers to withdraw regional services and replace these with more profitable services to other destinations – particularly long haul services.

5.48 We have evaluated the extent to which secondary trading is likely to have encouraged the withdrawal of services to and from Heathrow airport. Table 5.8 shows regional routes on which Heathrow services have been completely withdrawn during the last five years. As there is no clear definition of ‘regional’ route, and definition by aircraft type is not practical at Heathrow where use of regional aircraft is very rare, we show all domestic routes, plus routes to other EU Member States under 1,500km, on which there was previously at least a daily service.

5.49 Regional routes may also be withdrawn because the airline decides to use its slots for another service, as well as when the airline decides to sell or lease the slots. As airlines can reorganise their flights within the same portfolio of slots, it is not always clear whether the withdrawal of a specific service is due to secondary trading or not. The table shows whether the withdrawal of a route was:

- due to secondary trading – this is the case where either the carrier sold or leased all its slots, or where the number of slots given up by the carrier in the season equals or exceeds the number of slots previously used on the route(s) concerned;
- not due to secondary trading – this is the case where the carrier concerned did not give up any slots at the same time as the service was withdrawn; or
- for other reasons.

5.50 Only two routes were clearly withdrawn due to secondary trading (Luxembourg and

Valencia). In addition, three routes (Durham/Tees Valley, Leeds/Bradford and Jersey) were withdrawn and the slots were reallocated within the same owning group; this is explicitly permitted by Article 8a(1)(b). Although several other regional routes including Inverness, Rotterdam and Eindhoven have been withdrawn, this was not due to secondary trading: the carriers concerned retained the slots but used them for other services.

5.51 We have also evaluated the extent to which withdrawal of services to Heathrow resulted in a material reduction in regional accessibility. We have found that:

- **Most airports retained direct flights to another London airport:** The only airport which now has no flights to London is Durham/Tees Valley. However, direct flights to London available from Newcastle airport, approximately 75km away; and direct trains available to London from Darlington, 10km away, with a journey time of 2 hours 30 minutes. All other airports retained direct flights to at least one London airport, and often several.
- **Most airports have direct services to other major EU hubs:** Apart from Inverness, Jersey and Rotterdam all airports retained or gained direct links to at least one of the other major EU hubs (Amsterdam Schiphol, Paris CDG, Frankfurt or Madrid). Rotterdam is a short distance by train from Schiphol.
- **Some airports also gained direct services to other major non-EU hubs:** Shannon has a number of direct services to the US. Leeds/Bradford is close to Manchester which has a number of direct long haul services; Durham/Tees Valley is close to Newcastle which also has a number of direct long haul services.

TABLE 5.8 REGIONAL SERVICES TO/FROM HEATHROW WITHDRAWN 2006-10

City	Flights / day	Last operated	Carrier	Due to secondary trading?	Comments	Other London?	Other hub services?	Other long haul hubs?
Shannon	4	S07	Aer Lingus	No – slots transferred to new Aer Lingus Belfast route	1 daily flight reinstated S10; 3 per day from W10	Yes	CDG	Atlanta, Boston, New York, Philadelphia
Leeds Bradford	3-4	S09	bmi	Slots transferred within Lufthansa Group		Yes	AMS, CDG	No (but services from Manchester)
Durham Tees Valley	3	S09	bmi	Slots transferred within Lufthansa Group		No	AMS, CDG (from Newcastle)	No (but services from Newcastle)
Jersey	2	S09	bmi	Slots transferred within Lufthansa Group		Yes	No	No
Luxembourg	2	S09	Luxair	Yes – slots transferred to another airline		Yes	AMS, FRA, MAD, CDG	No
Eindhoven	1-2	S08	Air France/KLM	No – slots transferred to other routes		Yes	MAD	No
Alicante	1	S06	bmi	No – slots transferred to other routes		Yes	AMS, FRA, MAD, CDG	No
Gibraltar	1	S06	GB Airways	No – slots transferred to other routes	Reinstated by BA, S10	Yes	MAD	No
Santiago de Compostela	1	S06	Iberia	No – slots transferred to other routes		Yes	MAD	No
Inverness	1	S08	bmi	No – slots transferred to other routes		Yes	No	No
Naples	1	S08	bmi	No – slots transferred to other routes		Yes	AMS, MAD, CDG	No
Rotterdam	1	S08	Air France/KLM	No – slots transferred to other routes		Yes	No, but short distance by train from AMS	No
Valencia	1	S08	Iberia	Yes – slots transferred to another airline		Yes	AMS, MAD, CDG	No

Secondary trading: Conclusions

- 5.52 The Commission's 2008 Communication stated that it would not pursue infringement proceedings against States at which secondary trading took place, provided this was in a transparent manner. However, it is unclear that this has had much impact, as secondary trading still appears to take place primarily at the two main London airports, Heathrow and Gatwick. In part, this is because secondary trading is only transparent at these airports: whilst the coordinators state that artificial exchanges of slots have taken place at German and Austrian airports, no equivalent details on the trades which have taken place are available.
- 5.53 Secondary trading has had clear beneficial impacts at Heathrow: it has increased the mobility of slot holdings, increased aircraft sizes leading to more passengers being able to travel within the constrained capacity, and increased competition on some key long haul routes, without having an overall negative impact on competition at the airport; there have been some negative impacts on regional accessibility but in most cases the withdrawal of regional routes from Heathrow has not been due to secondary trading. However, it is important to note that it has not generated equivalent benefits at Gatwick, despite the fact that demand also exceeds capacity at Gatwick throughout most of the day.

The new entrant rule*The requirements of the existing Regulation*

- 5.54 The Regulation requires that 50% of pool slots be allocated to new entrants, unless there are insufficient applications from new entrants. A new entrant is defined in Article 2(b) as being an air carrier which
- i. if the request was granted, would hold less than 5 slots (so at most two arrivals and two departures), on the day concerned;
 - ii. an air carrier requesting slots for an intra-Community route on which at most two other carriers operate, where, if the request was granted, it would still hold less than 5 slots for the route (so, again, a maximum of two rotations); or
 - iii. an air carrier requesting slots for services to a regional airport, where no other carrier operates, and where if the request was granted, it would still hold less than 5 slots for the route (maximum two rotations).
- 5.55 Priority is given to any request that meets part (i) and either parts (ii) or (iii). However, in practice, a request that met part (iii) of this Article would almost certainly meet part (ii), as almost all services to a regional airport would be intra-Community; coordinators told us that part (iii) has never been used. In addition, a new entrant cannot have more than 4% of slots at the airport concerned, or 5% at an airport system.
- 5.56 Slots allocated to new entrants cannot be transferred to other carriers for 2 equivalent scheduling periods (2 years), and if allocated under parts (ii) or (iii) cannot be transferred to other routes, except routes on which the same criteria would be met.
- 5.57 In the Commission's 2008 Communication on the operation of the Regulation, it stated that it considered that the new entrant rule should be applied to slots allocated

throughout the season, not just at the initial coordination.

How the rule is applied

- 5.58 Carriers may invoke new entrant status when they apply for slots, and coordinators informed us that they follow the rule strictly at the time of the initial allocation of slots. Coordinators informed us that application of the rule is not an issue during the season as new entrants would not seek to start operations at such short notice, and because it is not practical to apply a 50% rule in the case of one-off requests (as these cannot be divided in half).
- 5.59 Nonetheless there are some differences in how the rule is applied. Further to a decision of the French coordination committee, the coordinator COHOR interprets the new entrant rule to mean strictly 50% of slots (and no more) should be allocated to new entrants. This could lead to fragmentation of the slot pool particularly at Orly where few slots are returned to the pool, as, if a daily slot is returned, this would have to be divided 50% between a new entrant and another carrier. In order to avoid this fragmentation, the coordinator does not reallocate pool slots until the next IATA conference or slot return date.
- 5.60 Both coordinators and airlines informed us that the new entrant rule is often not invoked by carriers that would be eligible to apply for slots through it. As a result, coordinators informed us (and our analysis below demonstrates) that it is rare for 50% of pool slots to be allocated under the new entrant rule. This is because:
- carriers do not want to be restricted in how they use the slots that they are allocated; and
 - at many times and at many airports, it is not necessary to invoke the new entrant rule (and hence be bound by the restrictions associated with it) in order to obtain slots.
- 5.61 In addition, at the most congested airports, particularly Heathrow, it is unusual for daily series of slots or peak hour slots to be available through the pool. Slots available through the pool are more likely to be off peak, less than daily or both. These slots are of limited use to new entrants except for infrequent services often to secondary destinations (particularly destinations for which the hours of operation would be non-peak, so for example central Asia rather than the US). Pool slots may be less attractive to a new entrant than to an incumbent, as it may be easier for an incumbent to utilise the slot to add a frequency to an existing service. Where peak daily slots become available, carriers are likely to seek to dispose of these through the secondary market given the significant potential value rather than return them to the pool.

Applications by airlines within the same owning group

- 5.62 An air carrier is defined by Regulation 1008/2008 as a holder of an operating license. It is common for an airline owning group to include more than one air carrier: for example, Lufthansa owns outright a number of other carriers including Swiss, BMI, Austrian, Air Dolomiti and Lufthansa Italia. As the new entrant rule applies to air carriers, it is possible for some owning groups to obtain new entrant status for one of their air carriers at airports where, in aggregate, they have more slots.

- 5.63 For example, easyJet holds two operating certificates, for easyJet UK and for easyJet Switzerland. easyJet Switzerland obtained new entrant slots at Paris Orly in winter 2008 and summer 2010⁴⁶, despite easyJet having a significant slot holding. After two years these slots can be transferred to easyJet UK (the main operator); potentially easyJet Switzerland can then apply for further new entrant slots. This enables an established carrier to use the new entrant rule to obtain slots – albeit a small number, and slowly. This appears anomalous but is consistent with the current Regulation.

Results of the new entrant rule

- 5.64 The new entrant rule has enabled some carriers to expand and hence to improve competition. For example, of the two main low cost carriers which have expanded in recent years, easyJet has extensively used the rule to obtain slots at congested airports; Ryanair has also used the rule, although less frequently as it tends to serve less congested secondary airports. Several long haul carriers have also used the rule to obtain slots at very congested airports such as Heathrow. For example:

- TAM, the main Brazilian network airline, used the new entrant rule in 2006 to obtain slots for a direct daily flight from Heathrow to Sao Paulo, competing with British Airways. The service still operates, now with a larger aircraft. In 2010 it used the new entrant rule to obtain slots for a direct service from Rio de Janeiro, also competing with British Airways. However, in order to obtain pool slots both slots have to operate with sub-optimal flight timings, with departures from Brazil around midnight, later than any of TAM's other departures to Europe, in order to arrive at Heathrow after 1300.
- Air New Zealand used the new entrant rule in 2006 to obtain slots for a direct daily service to Auckland via Hong Kong, adding competition on the London-Hong Kong route which is dominated by Oneworld alliance carriers (British Airways, Cathay Pacific and Qantas). However, again, to obtain new entrant slots it had to arrive at Heathrow after the peak period: its flight arrives at 1335, whereas most flights from Hong Kong operate overnight and arrive around 0600. The service is still operating although has been reduced to 5 days per week.

- 5.65 Table 5.9 below shows what proportion of new slots have been allocated under the new entrant rule at those of the sample airports for which we have this data, on average for the period winter 2005/6 – summer 2010 (the period is shorter where we do not have data). The analysis shows that, of the airports for which we have data, only at Heathrow and Orly are new entrant allocations approximately 50% of the allocated slots.

⁴⁶ Source: COHOR data for allocation of slot pools

TABLE 5.9 PROPORTION OF POOL SLOTS ALLOCATED THROUGH NEW ENTRANT RULE

Airport	Average % of pool slots allocated through new entrant rule	% of total slots	Period covered by data
Dublin	9.1%	1.5%	S06-W10
Düsseldorf	20.2%	2.6%	W09-S10
Frankfurt	25.7%	2.0%	W09-S10
London Gatwick	18.2%	2.1%	S06-W10
London Heathrow	48.4%	0.4%	S06-W10
Madrid Barajas	12.0%	1.6%	W05-S10
Munich	16.4%	1.5%	W09-S10
Palma de Mallorca	6.3%	1.6%	W05-S10
Paris CDG	7.1%	0.7%	W08-S10
Paris Orly	50.2%	0.6%	S08-S09,S10
Vienna	14.3%	2.4%	W07-W10

Source: SDG analysis of coordinator data

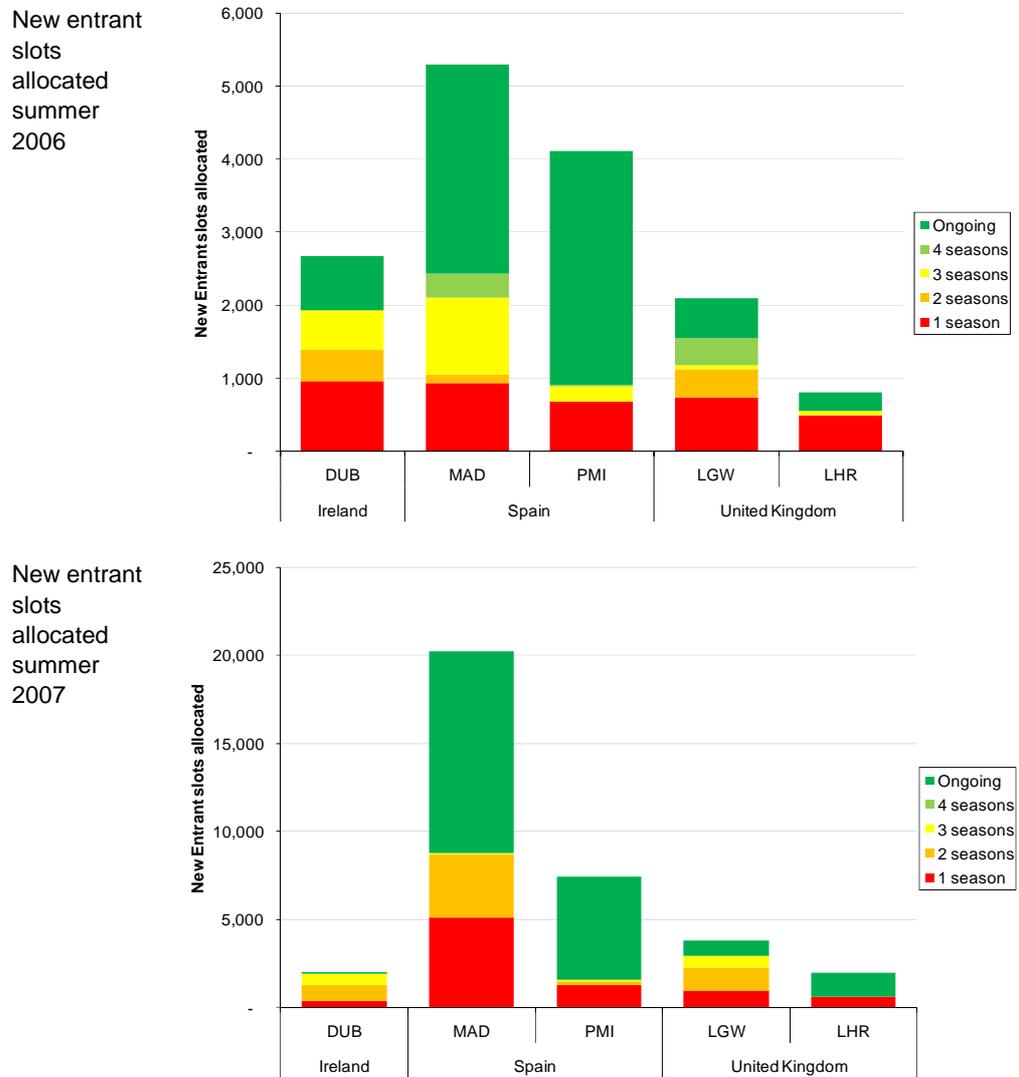
- 5.66 As discussed above, coordinators informed us that the low proportion of slots allocated to new entrants was because of a lack of new entrant applications for slots, particularly at less congested airports, as airlines will not invoke the new entrant rule if they can obtain slots without doing so.
- 5.67 However, we found that at Gatwick and (to a lesser extent) Frankfurt there were substantial numbers of new entrant requests that were not granted, despite the fact that new entrant allocations were well below 50%. Coordinators said that this was because some new entrant applications were at times which could not be granted, and because of inter-dependency between slot applications: for example, if a new entrant applies for 3 daily slot pairs for a route, it will not want the afternoon slots which may be available if it is not given the morning slot pair which is not. At Orly, it is possible to achieve an exact 50% allocation because there are no constraints other than the total slot cap – so when slots become available, any request can be granted; similarly, at Heathrow, almost exactly 50% is achieved due to the total movement cap.

Impact on market concentration

- 5.68 Figure 5.3 above showed that concentration is increasing at some congested EU airports, and therefore on this basis, the new entrant rule has not been successful in reducing market concentration. However, the potential impact that the new entrant rule could have on market concentration at congested airports is limited as the number of new entrant slots available is low.
- 5.69 The impact would be maximised if the airlines allocated new entrant slots were at least able to continue to utilise them – if they do not, the slots are returned to the pool, and half will be allocated to incumbents. Our analysis shows that many of the slots allocated to new entrants are not retained. Figure 5.7 below shows, for those airports for which we have data, the length of time for which entrants retained the new entrant

slots allocated during summer 2006 and summer 2007. At the majority of airports, the slots allocated to new entrants during this period are no longer operated by these airlines. Even at Heathrow and Gatwick, where slots have significant value, the majority of the new entrant slots allocated in summer 2006 are no longer used by the airlines to which they were allocated.

FIGURE 5.7 RETENTION OF NEW ENTRANT SLOTS



Source: SDG analysis of coordinator data

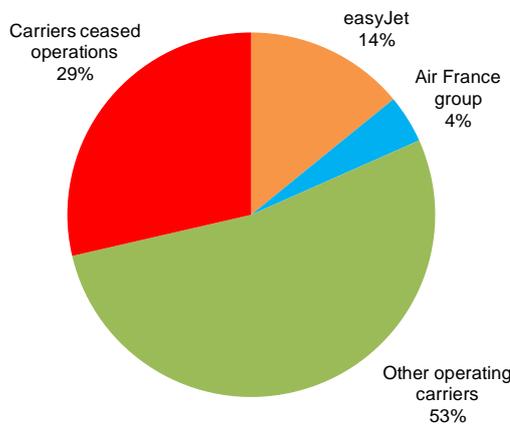
Impact on types of carriers operating

5.70 A consequence of the new entrant rule is that slots are awarded to a proliferation of carriers, rather than to a larger carrier that may be in a stronger position to compete with the main incumbent. A number of stakeholders pointed out that this conflicts with the position that the Commission has taken when carriers have been required to give up slots as a condition of a merger or joint venture: in these cases the Commission has explicitly favoured reallocation to other airlines that can offer a higher frequency and

hence offer effective competition⁴⁷.

5.71 Figure 5.8 below shows allocations of pool slots at Paris Orly since 2002. This shows that whilst the largest number of slots was awarded to easyJet which was seeking to challenge Air France’s dominant position in the Paris market, it was only allocated 14% of the slots which became available, and a greater proportion were allocated to carriers that subsequently ceased operations because they became insolvent or had their licenses revoked.⁴⁸ This data also demonstrates the fragmentation of the slot pool that can result from the new entrant rule: the average number of slots allocated to each of the carriers other than easyJet and the Air France group was sufficient for 2.2 flights per day.

FIGURE 5.8 SLOT ALLOCATIONS AT ORLY 2002-2010



Source: SDG analysis of COHOR data

Operational impacts of the new entrant rule

5.72 For those airports for which we have data, we have evaluated the extent to which new entrant slots appear to represent an efficient use of capacity, by comparing average seats per aircraft for new entrant slots against slots allocated to incumbents and for historic slots. New entrants generally use slightly bigger aircraft than used on historic or new incumbent slots, but at most airports, this impact is small. As discussed below this appears to result from the fact that new entrant slots are more likely to be used for long haul services.

⁴⁷ See, for example, the commitments made by British Airways, American Airlines and Iberia (COMP/39.596, 14 July 2010)

⁴⁸ This analysis includes all new slot allocations at Orly. The data we have been provided by the French coordinator does not separate new entrant from other slots.

TABLE 5.10 IMPACT OF NEW ENTRANT RULE ON SEATS PER MOVEMENT

Airport	Historic	New incumbent	New entrant
Dublin	163.3	160.4	152.7
London Gatwick	174.7	173.7	185.1
London Heathrow	203.0	193.9	223.0
Madrid Barajas	157.6	153.8	167.5
Palma de Mallorca	161.5	158.6	160.8
Vienna	108.4	122.9	137.6

Source: SDG analysis of coordinator data, summer and winter 2008 seasons

- 5.73 We have also evaluated, where data is available, the proportion of new entrant and new incumbent slots used for long haul versus short haul flights. New entrant slots are more likely to be used for long haul flights, reflecting the fact that non-EU airlines are more likely to meet the criteria of having less than 5 slots at the airport. However, it is possible that even if a new incumbent slot is used for a short haul flight, the airline may choose to use another slot in its portfolio freed up for a long haul service – and therefore this does not necessarily mean that the current new entrant rule leads to more long haul flights.

TABLE 5.11 IMPACT OF NEW ENTRANT RULE ON TYPES OF FLIGHT

Airport	% of slots used for long haul	
	New incumbent	New entrant
London Gatwick	7.4%	24.3%
London Heathrow	52.8%	94.0%
Madrid Barajas	13.9%	19.2%
Vienna	9.2%	13.9%

Source: SDG analysis of coordinator data, summer and winter 2008 seasons

- 5.74 There is a clearer impact on slot utilisation (Table 5.12). Airlines that have been allocated new entrant slots are significantly less likely to utilise these slots than other airlines at the airport. At Gatwick and Madrid, the utilisation achieved by airlines that have been allocated new entrant slots is below 80% on average. At Madrid, this is unlikely to have a significant impact on overall utilisation at the airport, as there is spare capacity available, but this would reduce the overall number of movements which could be accommodated at Gatwick.

TABLE 5.12 IMPACT OF NEW ENTRANT RULE ON SLOT UTILISATION

Airport	% utilisation	
	All slots at airport	Airlines granted new entrant slots
London Gatwick	92.1%	76.0%
London Heathrow	97.9%	95.7%
Madrid Barajas	86.8%	78.5%
Vienna	92.0%	85.5%

Source: SDG analysis of coordinator data, summer and winter 2008 seasons

Note this data covers all slots held by airlines that receive new entrant slots, including any existing slots they hold. This is because slot utilisation data is separate from slot request/allocation data and it is not practical to reconcile these.

5.75 We have also tested whether the load factors achieved by new entrants are comparable to those achieved by other airlines. Data to calculate this was only available for Heathrow and Gatwick airports. This shows that:

- at Gatwick, the average load factors for airlines which receive new entrant slots are 6% lower; and
- at Heathrow, average load factors are 4% lower.

Results of new entrant rule where significant new capacity added

5.76 In the period covered by the data obtained for this study, the only example of where substantial new capacity was created at an airport that was previously very congested was the expansion of Madrid Barajas airport. New runways opened in August 2005 and a new terminal in March 2006; coordinated capacity was increased from the winter 2006/7 season although there was some added flexibility in coordination parameters before this. Therefore, in evaluating the impact that the new entrant rule has in the event of a major capacity expansion, we can compare slot allocation at Madrid before and after the expansion in capacity.

5.77 Figure 5.7 above showed that, of the new entrant slots allocated at Madrid for the summer season of 2007 (the first summer season with expanded capacity), 42% were not retained until the following year and only 43% are still operated. In total, the number of slots allocated during the summer season increased by 22% between summer 2006 and summer 2008, before reducing in 2009 (partly due to the opening of the high speed rail line to Barcelona); however, of the new slots allocated during this period, only 15% were new entrant slots.

5.78 The capacity expansion at Madrid was so significant that constraints were largely eliminated, and airlines could generally obtain slots regardless of whether they claimed new entrant status. Therefore, although the new entrant rule does not appear to have been effective in introducing sustainable competition, as slots were not retained by the carriers to which they were allocated, its impact would in any case have been limited. The capacity expansion at Madrid did allow launch of extensive

new services in competition with the dominant airline (Iberia), by easyJet, Ryanair, Vueling⁴⁹, Air Comet and others, but these airlines obtained new incumbent slots rather than new entrant slots.

- 5.79 The new entrant rule would have a more significant impact if there was significant new capacity added at an airport but this was **not** sufficient to accommodate all demand. This has not occurred at any of the sample airports in the period for which we have data, but the allocation of slots at Orly after the bankruptcy of Air Lib in 2003 is a similar situation. In this case:
- slots were divided between 15 airlines;
 - the average number of slots per airline was sufficient for 3.2 daily rotations;
 - 38% of slots were allocated to airlines which subsequently became insolvent and ceased operations;
 - the largest number of slots allocated to an airline that still operates was to easyJet, which obtained 20% of the Air Lib slots; and
 - 10% of slots were allocated to the Air France group, the dominant incumbent.
- 5.80 This indicates that the new entrant rule was not successful in facilitating sustainable competition in the specific circumstances where it should have had most impact.

Conclusions

- 5.81 Overall the analysis shows that, although there have been some successful competitor services which have been launched as a result of the new entrant rule, overall it has not been successful at promoting sustainable competition.
- 5.82 However, despite the limitations of the new entrant rule, it has been possible for low cost airlines such as easyJet and Ryanair to achieve significant growth. In the case of Ryanair, this has mostly been achieved by expanding at airports which have spare capacity, and many of its major bases, such as Frankfurt Hahn and Brussels Charleroi, are not coordinated. easyJet has grown operations from more congested airports including (particularly) Gatwick, but although it has obtained new entrant slots in some cases, this has also been achieved through purchasing slots on the secondary market (at Gatwick), and it has been restricted in its ability to expand at other airports (particularly Orly)⁵⁰.

⁴⁹ Vueling is now owned by Iberia but at the time was a competitor

⁵⁰ At Orly, easyJet has been an extensive user of the new entrant rule. At Gatwick, it has not been a new entrant in the period we have data for (since 2006). During this period, its Gatwick slot holding has doubled; of the new slots, we estimate 37% were from the acquisition of GB Airways; 18% from secondary trading; and 44% new incumbent (pool) slots. At Dusseldorf, most of the (limited) slots it has were new entrant slots. At Madrid, since 2006 it has expanded using a mixture of new entrant (approx 30%) and new incumbent (approx 70%) slots. At most times it is not necessary to invoke new entrant status to obtain slots at Madrid.

Return and late handback of slots

The requirements of the existing Regulation

- 5.83 Article 10(3) states that slots have to be returned to the coordinator by 31 January (for the summer season) or 31 August (for the winter season) if they are not to be taken into account for the 80/20 calculation. These dates are the **Slot Return Deadline (SRD)**.
- 5.84 The Regulation does not specify by when slots have to be handed back to the coordinator if they are not to be used. However, Article 7(1) does require carriers to provide information on proposed operations to coordinators by the deadlines that they specify and Article 7(2) specifies that where a carrier “provides false or misleading information, the coordinator shall not take into consideration the slot request or requests by that air carrier to which the missing, false or misleading information relates.”
- 5.85 The IATA World Scheduling Guidelines specify that where a carrier does not wish to use slots that it has been allocated, it must hand these back to the coordinator by 15 January and 15 August - the **Slot Handback Deadline (SHD)**.
- 5.86 In addition, if slots are not handed back but the carrier is not using them sufficiently, Article 14(6) states that if the 80% utilisation threshold cannot be met, the coordinator may withdraw the series; and if the first 20% of slots in the series are not used all, the coordinator must withdraw the series.

Actual timings of handback of slots

- 5.87 Coordinators informed us that late handback of slots, and overbidding, continue to be issues at some airports. Most coordinators provided us with data for the number of slots at different stages of the allocation process, rather than late handbacks alone, but Table 5.13 below shows the actual number of slots handed back late at the German airports. This shows that a significant proportion of slots are returned late, although the proportion varies significantly between the airports.

TABLE 5.13 LATE HANDBACKS

Airport	% slots returned after SRD	Seasons covered
Düsseldorf	7.1%	S09 and W09
Frankfurt	5.4%	S09 and W09
Munich	7.4%	S09 and W09
Stuttgart	8.2%	S09 and W09
Berlin Schönefeld	1.3%	S09 and W09
Berlin Tegel	5.2%	S09 and W09

Source: SDG analysis of FHKD data

- 5.88 Table 5.14 shows an index of the number of slots allocated at each stage of the process, at the airports for which we have this data. As slots handed back late may still

be allocated by the coordinator to another carrier, this shows the net change in slot holdings (late handbacks less the slots allocated late). At the most congested airports, such as Heathrow and Frankfurt, the number of slots returned after the SRD but before the start of the season is approximately offset by the number of slots subsequently allocated by the coordinator to carriers that applied late or were waitlisted. However, any difference between the number of slots allocated at the SRD and the number of slots at the start of the season indicates that late handback reduced the number of flights that could be operated.

5.89 This data also shows evidence of over-bidding for slots. Even at some airports with relatively limited congestion, such as Amsterdam Schiphol and Rome Fiumicino, the number of slots initially allocated in response to carrier requests significantly exceeds the number still held by airlines by the SRD.

TABLE 5.14 INDEX OF SLOTS ALLOCATED AT EACH STAGE OF THE ALLOCATION PROCESS (SLOT RETURN DEADLINE = 100)

Airport	Initial Historic	Initial Allocation	Slot Return Deadline	Start of Season	End of Season	Source	% slots at SRD returned before start of season
Amsterdam Schiphol	93	107	100	98	93	S08 total	2%
Dublin	98	109	100	102	99	S10 peak week	-2%
Düsseldorf	No data	103	100	101	97	S08 total	-1%
Frankfurt	No data	102	100	99	96	S08 total	1%
London Gatwick	97	100	100	99	95	S10 peak week	1%
London Heathrow	100	100	100	100	98	S10 peak week	0%
Madrid Barajas	89	110	100	97	93	S08 typical week	3%
Milan Linate	106	106	100	100	94	S08 total	0%
Munich	No data	106	100	100	95	S08 total	0%
Palma de Mallorca	086	110	100	101	97	S08 typical week	-1%
Paris CDG	103	110	100	93	No data	S10 total	7%
Rome Fiumicino	112	112	100	91	83	S08 total	9%
Vienna	90	103	100	95	91	S08 peak week	5%

Source: SDG analysis of coordinator data

5.90 Coordinators argued that a key impact of overbidding for slots and late handback was to reduce the efficiency of the slot allocation system, and increase the workload for both coordinators and airline scheduling teams. Therefore, late handback causes costs for other airlines and coordinators even when the coordinator is able to reallocate the

slot. EUACA provided analysis, undertaken for Manchester airport, which shows that over 7% of slots requested for the peak hour and allocated for the peak hour were ultimately cancelled (Table 5.15 below). Whilst it was possible to improve some other slot offers, some capacity was not used as a result.

TABLE 5.15 PEAK HOUR SLOT REQUESTS AND ALLOCATIONS, MANCHESTER AIRPORT, PEAK 2 HOURS, SUMMER 2006

Request Category	Requests	Final Status	
Historic peak slot	105	Initially cleared in peak and operated in peak	93
		Initially cleared in peak but cancelled	7
		Initially cleared in peak but retimed off-peak	5
Retime from off-peak	9	Initially cleared in peak and operated in peak	2
		Initially cleared in peak but cancelled	0
		Initially cleared in peak but retimed off-peak	1
		Offered off-peak, improved to peak and operated	2
		Offered off-peak but cancelled	2
		Offered off-peak and operated off-peak	2
New slot requests	23	Initially cleared in peak and operated in peak	7
		Initially cleared in peak but cancelled	3
		Initially cleared in peak but retimed off-peak	0
		Offered off-peak, improved to peak and operated	8
		Offered off-peak but cancelled	5
Post-IATA requests	3	Offered off-peak and operated off-peak	0
		Cleared in peak and operated in peak	3

Source: EUACA

Reasons for airlines not scheduling all slots

5.91 The analysis above clearly shows that airlines do not always schedule flights for all slots that have been allocated. Whilst the vast majority of airlines informed us that they would seek to schedule every slot that they were allocated, some did admit overbidding for slots:

- one informed us that it might apply for a large number of slots in the hope of gaining some, particularly if it was not clear at what times slot requests were likely to be successful (it blamed lack of information from coordinators for forcing it to do this); and
- several informed us that where applying for slots for a flight to one coordinated airports they might also apply for slots at another as a 'backup' in case slots the first choice were not obtained – for example, if slots were sought for a route to Orly it might also apply for slots at CDG.

5.92 However, airlines informed us that part of the reason for the significant difference between the number of slots initially allocated and the slots actually scheduled arose from slots not being granted at the times expected. For example, if a carrier applies for a slot at 0900 but the airport is full in the morning, it may be allocated a slot at 1400, but this may not be useable and is therefore returned to the pool.

- 5.93 In addition, in some cases airlines might bid for several slots on a day in order to operate a route, some of which would be peak and some off-peak, but the airline would receive only the off-peak slots. In these cases the airline might decide not to operate the route at all and so would return rather than schedule the other slots.

Reasons for late handback of slots

- 5.94 Most carriers claimed that they would not deliberately hand back slots late, but that there were circumstances where this would happen unavoidably, such as:

- late delivery of aircraft that had been ordered to operate a route, or (for non EU services) failure to obtain traffic rights;
- late decision not to operate a route, either for commercial reasons (lower than expected demand) or in some cases due to; or
- for services between two coordinated airports, where it was expected that slots would be obtained after the initial allocation at one airport but that they were not.

- 5.95 Late handback may arise more frequently for charter carriers. In particular this may happen for the summer season, as tour operators often do not finalise their programme for the summer until the start of March, six weeks after the slot handback deadline. In addition, in some cases tour operators may ask more than one airline for bids to operate a service, prompting them each to apply for slots, but the tour operator then only contracts one airline to operate the service. This is less of an issue for tour operator groups that also own the airlines, such as Thomas Cook, than airlines that operate charters on behalf of third parties.

- 5.96 In addition, whilst handback immediately before the deadline is not considered late, it still reduces the chance that slots can be utilised efficiently by another carrier. Two major network carriers admitted that they handed back all unwanted slots shortly before the deadline.

Slot utilisation

The requirements of the existing Regulation

- 5.97 The Regulation requires that, for historic precedence to be obtained or retained, a series of slots must be used at least 80% of the time. A series of slots must contain at least 5 slots; therefore, for a series of 5 slots, the slot must be used at least 4 times. This can be waived in certain specific circumstances, defined in Article 10(4), such as the grounding of an aircraft type or closure of an airport.

How the rule is applied

- 5.98 The 80% rule should be applied by coordinators through slot monitoring – comparison of the actual number of operations, for each series of slots, against actual operational data. Where a series of slots appears to have been used less than 80% of the time, the coordinator does not grant historic precedence, unless the carrier can demonstrate that one of the circumstances specified in Article 10(4) has occurred.

- 5.99 Utilisation is measured separately for each slot, for each day of the week. Therefore, if a flight on a particular day is cancelled more than 20% of the time, the series on that

day should be withdrawn, regardless of the utilisation achieved by the equivalent flight on other days of the week.

5.100 The extent of slot monitoring varies between airports, partly reflecting the systems used by coordinators. At the most congested airports such as Heathrow and Frankfurt the utilisation of each series is analysed. At less congested airports, slot monitoring may be less extensive - and might in any case not be an efficient use of resources, as withdrawal of a series does not have any material impact if slots can be obtained readily from the pool. For example, at Amsterdam, the extent of monitoring varies between daytime slots (which are readily available) and night slots (which are not):

- for daytime slots, the coordinator monitors overall levels of cancellations and if there appears to be low utilisation for a particular airline or route, will then investigate if an individual series has dropped below 80%; but
- for night slots, the coordinator monitors the utilisation of each series of slots.

5.101 There are differences in interpretation between coordinators and airlines on some aspects of the 80-20 rule. Our interpretation is that slots should be withdrawn if 80% of any series are not operated. This means that if flight number XX123 fails to operate 80% of the time on one day of the week, the slot on that day of the week should be withdrawn. However, the German coordinator (FHKD) only withdraws slots where a carrier fails to operate 80% of all its slots within an hour. This makes little or no difference with respect to non based carriers who would usually not have more than one operation at the same airport in the same hour, but is significantly less onerous for based carriers which may have many. In our view this is not consistent with the Regulation⁵¹.

5.102 A further issue is the handling of gaps in series such as public holidays (see box below). Also, the Spanish coordinator interprets a slot as not having been operated for the purposes of the 80-20 rule if the flight is significantly off slot (by more than 15 minutes for short haul or 30 minutes for long haul) which may explain the much higher proportion of slots withdrawn at the Spanish airports (see below).

5.103 Airline interviews also showed that the 80/20 rule was applied inconsistently: one said it was common for a slot withdrawn by a coordinator at one end of a route because of failure to operate 80% of flights, but the coordinator at the other end of the route does not to withdraw the corresponding slot at the other airport.

Gaps in the series and public holidays

The Regulation require slots in a series to be regular, but does not require that slots be on consecutive weeks. Therefore, a series can have gaps, for example to omit public holidays, without these dates counting towards the 20%, provided the slots are returned before the slot return deadline. EUACA guidance allows gaps in a series (of up to 4 slots).

However, some carriers informed us that public holiday slots were handed back after the slot return date and counted towards the 20%, as coordinators would not accept individual slot

⁵¹ However, this may make little difference as there is nothing in the Regulation to stop carriers from moving flights between slots at similar times in order to achieve 80% on as many slots as possible. EUACA recommended practices state that coordinators should not permit this, but this is not binding.

returns. This was a key argument against increasing the utilisation threshold from 80%.

Whilst coordinators informed us that they would accept individual slot returns provided these were before the deadline, it is not clear whether they impact on the historic slots for the subsequent year. This is very important for public holidays which fall either on different weekdays, or on different dates, each year, and particularly the winter season, because 25 December and 1 January are on the same day of the week and therefore impact the same slot series.

There might be strong demand for a flight on Friday 24 December but negligible demand on Saturday 25 December, and therefore a carrier might hand back the Saturday slot; however, if this means that it might not be able to operate the flight on Saturday 24 December the following year, 23 December the next, etc, it might not do so and so this would have to count towards the 20% allowance for non-operations. Some coordinators do allow filling of gaps such as these, but others do not:

- ACL allows gaps in a series to be filled, so, for example, if there is a winter series of 22 slots where 25 December and 1 January are returned by the deadline, it would allow the carrier to claim historic rights to the full 22 weeks provided it had operated 80% of the remaining flights
- FHKD does not: for both the determination of 80/20 and the determination of historic slots, it uses the slots at the slot return deadline.

The Regulation does not specify either interpretation and coordinators informed us that this difference depends partly on the different IT systems that they use.

Whilst this is a very technical issue, it is important in any assessment of whether the 80% utilisation threshold should be increased.

Application of Article 10(4)

- 5.104 Non-utilisation of a slot does not count towards the 20% threshold where this is due to certain exceptional circumstances defined in Article 10(4), including grounding of an aircraft type, closure of an airport, and actions (such as strikes) intended to make it practically or technically impossible to operate. EUACA has compiled guidance on how this should be interpreted and has set up an area in the secure part of its website for coordinators to record and check information on force majeure events.
- 5.105 However, there is still scope for different interpretations between coordinators (Table 5.16): for example, EUACA guidance is that technical problems with an aircraft should not be accepted as valid reasons for non-operation of a flight, but this is accepted by ACS. Whilst closure of an airport due to bad weather is covered by Article 10(4) and would be accepted by all coordinators, Assoclearance would not accept other operational disruption due to bad weather, but SCA and ACS do.

TABLE 5.16 EXCEPTIONAL CIRCUMSTANCES ACCEPTED BY COORDINATOR

Coordinator	Approach
ACL	Circumstances accepted as force majeure if covered by Article 10(4). ACL interprets this to include ATC and cabin crew strikes. Where major, known event (such as volcanic ash) does not ask for proof but otherwise airline must provide evidence.
AENA	Strictly applies criteria in Article 10(4). Where circumstances relate to a Spanish airport coordinator may apply exemption to all flights concerned; where circumstances relate to a non-Spanish airport will only apply if a claim received by the carrier.
ACS	Circumstances accepted include weather, technical problems, closure of airspace
ASSOCLEARANCE	Applies criteria in Article 10(4) and requires supporting evidence. Does not accept bad weather alone as adequate justification.
COHOR	Strictly follows definition in Article 10(4) and requests supporting evidence from carrier
FHKD	Slot monitoring department investigates claims and will accept them if in line with Article 10(4)
SACN	Slots rarely withdrawn (see above)
SCA	Applies criteria in Article 10(4) but seeks to be flexible/accommodating where possible. Does accept bad weather if it can be proved that it occurred.

Actual slot utilisation and withdrawal of slots

5.106 At most EU airports, withdrawal of slots for failure to achieve 80% utilisation is relatively rare (Table 5.17 below), although there are substantial differences between airports, with only 0.4% of slot series being withdrawn at Heathrow and 11.3% at Palma de Mallorca. The proportion of slots withdrawn is lowest at the most congested airports (Heathrow, Orly and Frankfurt), as most airlines ensure that they retain slots at these airports, given the value these slots have. The proportion of slots withdrawn at Amsterdam Schiphol is also very low reflecting the more limited nature of slot monitoring at this airport, discussed above. This data was not available for Dublin, Milan Linate, Rome Fiumicino or Stockholm Bromma airports.

TABLE 5.17 SLOTS WITHDRAWN FOR FAILURE TO MEET 80% UTILISATION⁵²

Airport	Total slots withdrawn (Summer 2008 except where stated)	% of total slots at initial allocation
Amsterdam Schiphol	1-2 series per year on average	<0.05%
Düsseldorf	4,116 (W09)	4.1%
Frankfurt	5,009 (W09)	2.3%
London Gatwick	212 (peak week slot series)	3.5% (of series)
London Heathrow	35 (peak week slot series)	0.4% (of series)
Madrid Barajas	30,651	9.3%
Munich	4,773 (W09)	2.6%
Palma de Mallorca	17,470	11.3%
Paris CDG	6,169 (W08)	2.4%
Paris Orly	2,054 (W08)	2.0%
Vienna	12,947	6.9%

Source: SDG analysis of coordinator data

5.107 Table 5.18 below shows that at the most congested airports, slot utilisation is generally over 95%, but at the other airports, utilisation can be below 90%. Utilisation at Dublin, Heathrow and Vienna was lower in summer 2009 than summer 2008, which would be at least partly due to the suspension of the 80-20 rule. However, utilisation at Palma, Madrid and Gatwick was higher in 2009 than 2008; at Gatwick this is explained by the insolvency of XL Airways, which had a base at Gatwick, during the summer 2008 season.

TABLE 5.18 TOTAL SLOT UTILISATION

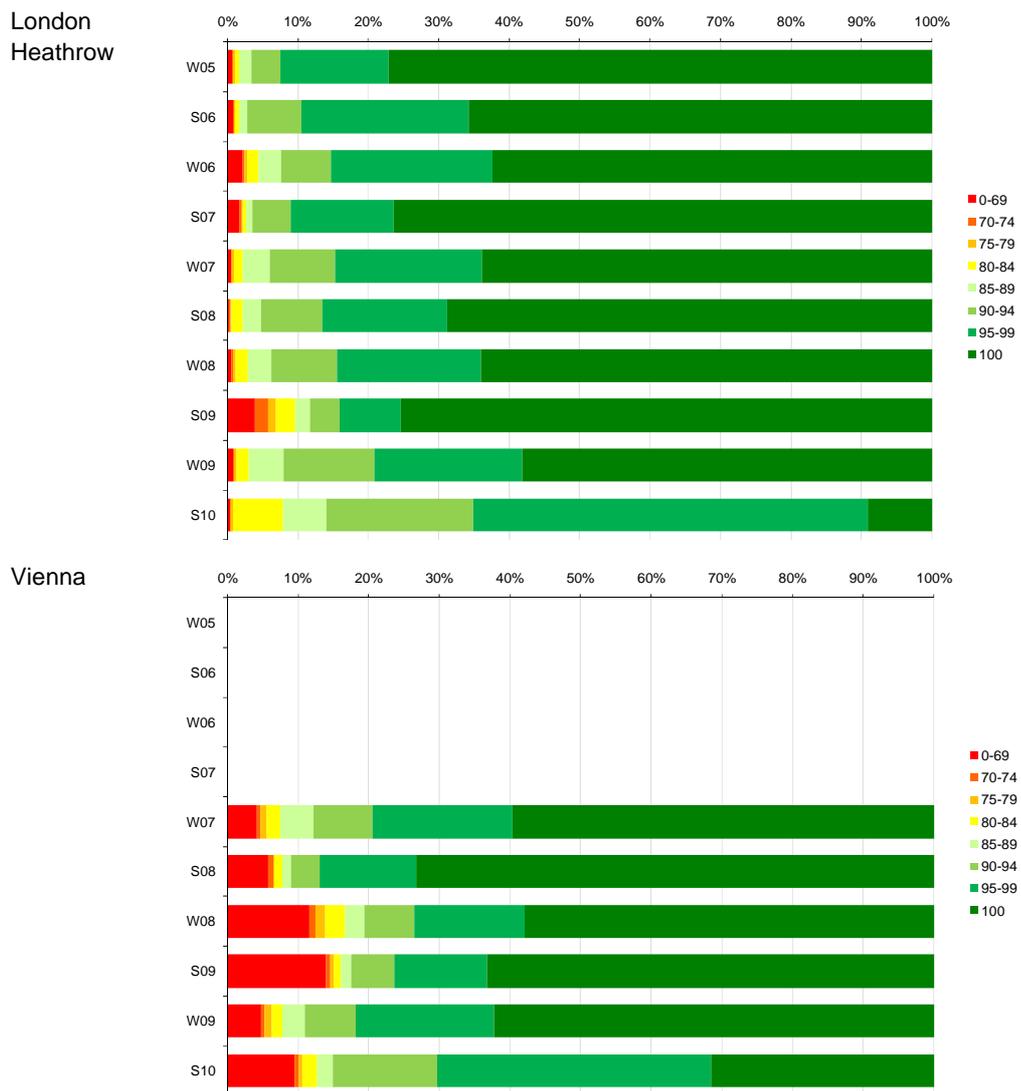
Airport	S08	W08	S09	W09
Dublin	97.1	91.1	88.2	92.7
Düsseldorf	-	-	93.9	90.3
Frankfurt	-	-	93.8	94.6
London Gatwick	92.3	88.7	95.0	86.6
London Heathrow	97.9	96.9	94.4	95.8
Madrid Barajas	84.3	88.0	90.2	88.5
Munich	-	-	92.2	92.0
Palma de Mallorca	83.0	89.6	88.9	90.5
Paris CDG	-	97.4	97.8	95.7
Paris Orly	-	97.0	95.5	93.9
Vienna	92.8	88.6	86.3	93.3

Source: SDG analysis of coordinator data

⁵² Note data is shown for summer 2008 (where available), due to suspension of 80% utilisation rule in summer 2009.

5.108 Figure 5.11 shows the frequency with which different levels of utilisation are achieved by slot series at Heathrow and Vienna (these two airports are shown to give examples of an airport at which demand significantly exceeds capacity throughout the day, and one where demand only exceeds capacity in peak periods). The patterns of utilisation are similar at both airports although overall utilisation is higher at Heathrow. At both airports, most slot series are operated 100% of the time, and very few are operated more than 0% but less than 80%. Utilisation was reduced at both airports in summer 2009 due to the suspension of the 80% utilisation rule, and few slot series at either airport will achieve 100% utilisation in summer 2010 due to the volcanic ash crisis, which resulted in closure of most European airspace for six days.

FIGURE 5.9 UTILISATION OF SLOT SERIES⁵³

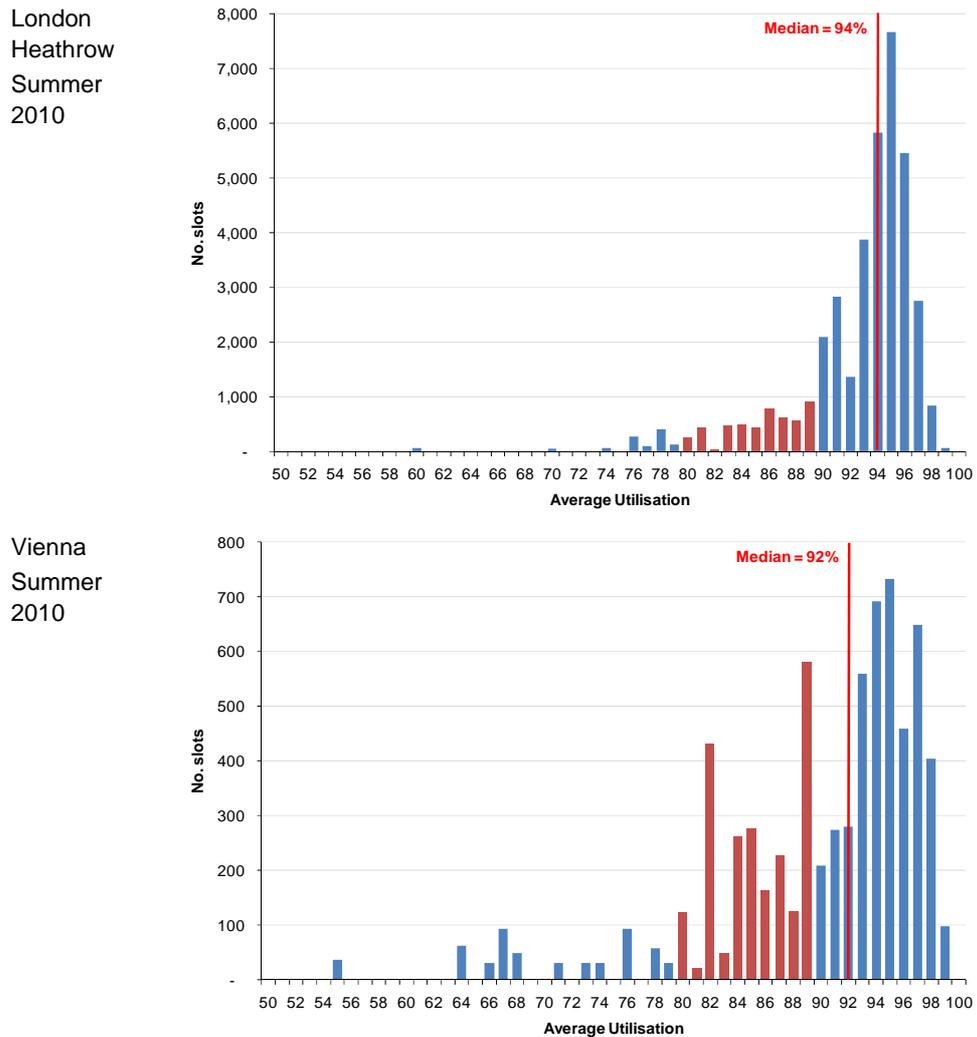


Source: SDG analysis of coordinator data. Vienna data not available before winter 2007 season.

⁵³ Note, Summer 2010 season was not complete when the data was provided to us and therefore represent the coordinators' projections.

5.109 Where the utilisation of individual series nears 80%, overall the utilisation achieved by the flight concerned, measured across all days of the week, still tends to be high. Figure 5.10 shows that, where a slot series on one day of the week achieves only 80-89% utilisation, the median utilisation achieved by the corresponding flight, measured across the entire week, is 94% at Heathrow and 92% at Vienna. This indicates that utilisation is reduced by individual cancellations rather than a tactical decision by an airline to operate a specific flight a low proportion of the time.

FIGURE 5.10 UTILISATION ACHIEVED BY FLIGHTS WHERE AT LEAST ONE SERIES ACHIEVES ONLY 80-89% UTILISATION



Source: SDG analysis of coordinator data.

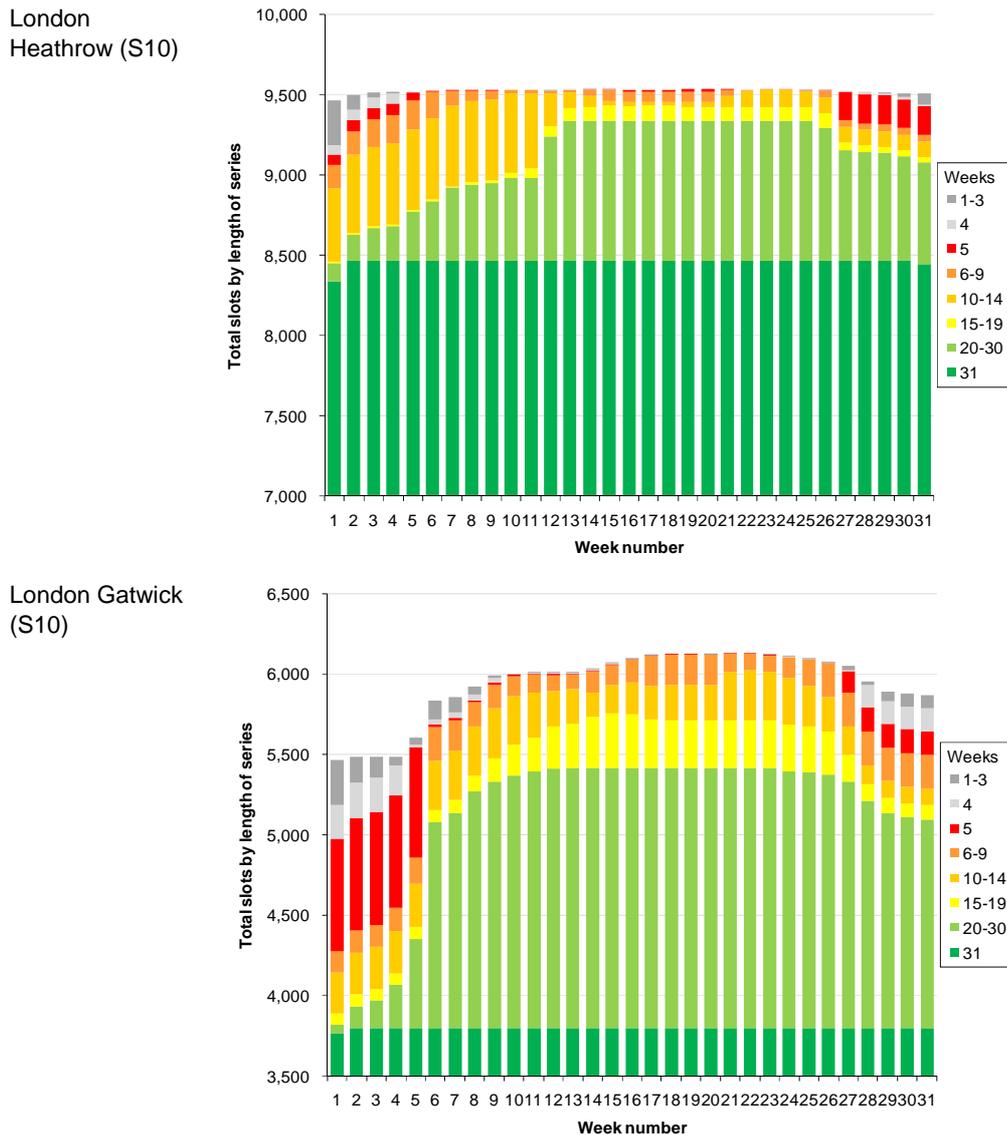
Impact of series length

5.110 The Regulation and the IATA World Scheduling Guidelines define a series of slots as a minimum of 5 slots. This can lead to inefficient utilisation of capacity at some airports, if an airline has historic rights to a short series in high season which then prevents another airline from obtaining a series of slots lasting throughout the season.

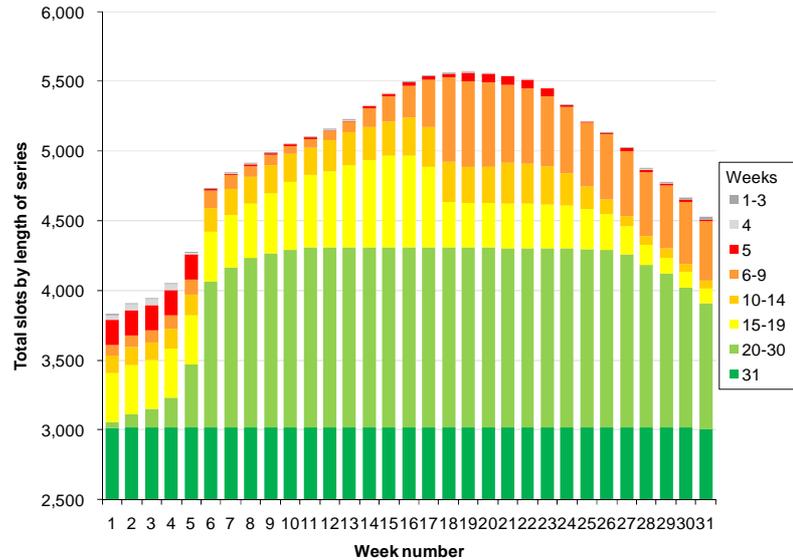
5.111 Figure 5.11 below shows that at Heathrow, where demand for slots is so high year round that carriers would be unlikely to use a slot in the highest season only, most

slots allocated are as part of long series lasting most or all of the season, and the number of slots allocated per week is approximately constant. However, at a more moderately congested airport such as Gatwick, there are a higher number of shorter series, and movements are higher in the high summer period. There is therefore a risk that short series in the peak potentially prevent the operation of year-round services. At Palma de Mallorca, traffic is more strongly seasonal but as demand is less than capacity at most times there is less risk of inefficient utilisation of capacity resulting from short series.

FIGURE 5.11 NUMBER OF SLOTS ALLOCATED BY WEEK, AND SERIES LENGTH



Palma de
Mallorca (S10)



- 5.112 In order to try to minimise the inefficiency arising from this, Gatwick airport tried to introduce a local rule (rule 2A) which specified a minimum series length of 15 slots. However, this had to be rescinded as it was inconsistent with the Regulation.

Conclusions on the operation of the existing Regulation

- 5.113 Although many stakeholders consider that the Regulation is working well and needs little if any change, this analysis demonstrates that there are a number of issues with it, in terms of the operational results that it has had:
- The mobility (turnover) of slots is low at many congested airports: of the most congested EU airports, only Gatwick airport has seen a significant change in slot holdings in the last few years. It is very difficult for entrants to grow operations at congested airports, although this has not stopped the substantial overall growth of new airlines such as Ryanair and easyJet.
 - The new entrant rule has resulted in fragmentation of the schedule and has not been successful at promoting competition. Many slots allocated to new entrants are returned to the pool after just one season. In addition, at most EU airports, less than 50% of available slots are allocated to new entrants, largely because there are not enough applications which meet the current definition of a new entrant.
 - Even at some airports at which demand for slots exceeds supply, over 10% of slots allocated are not utilised, which indicates that the utilisation of scarce capacity is inefficient. However, at the most congested airports such as Heathrow, utilisation is high (over 95%).
 - At some airports, short series of slots with historic rights also result in inefficient capacity utilisation, by blocking capacity in the summer peak and preventing year-round services operating.
 - At some airports, late handback of slots and overbidding reduces the effective capacity that can be utilised. However, the impact on capacity utilisation is small at all of the airports we have analysed.
- 5.114 In addition, the allocation of slots at some of the most congested airports which has arisen through the administrative slot allocation mechanism does not appear to be consistent with an economically efficient use of capacity, which we would expect to

be operations with larger aircraft to accommodate the most passengers possible given the capacity constraint. At some airports at which demand exceeds capacity throughout the day (particularly Paris Orly and Düsseldorf), a substantial proportion of slots are used for flights with quite small aircraft; the numbers of passengers that could be transported would be increased if larger aircraft were used.

- 5.115 The analysis also shows that secondary trading at the London airports has been successful in improving capacity utilisation, increasing the mobility of slots between airlines, allowing new entry on some long haul routes. It has not had any clear negative impacts in terms of increased market concentration. However, despite the Commission's 2008 Communication, there is still little evidence of secondary trading occurring at other EU airports. This may be partly because secondary trading is not transparent at airports other than the London airports; the German coordinator acknowledges that artificial exchanges are occurring at Frankfurt and Düsseldorf but there is no detail available on what trades have occurred.
- 5.116 However, the fact that secondary trading has had much less impact at Gatwick than Heathrow indicates that the potential impact of secondary trading at airports other than Heathrow is probably lower. In part this is because the circumstances at Heathrow are unique, in terms of the very strong demand for slots for profitable long haul services, the strength of competition between airline alliances, and the lack of any prospect of capacity expansion in the foreseeable future. In part, it is also because secondary trading is not permitted at some airports (including Paris Orly, and the Spanish airports). Nonetheless, secondary trading could have similar (albeit less extensive) impacts at certain other airports, particularly Paris Orly, if it was introduced.

6. SLOT ALLOCATION IN THE US

Introduction

- 6.1 This section provides an overview of the current system of slot allocation used in the United States of America (US), and describes the FAA's recent proposals to introduce auctions at the New York airports.

Background

- 6.2 In contrast to Europe, access to most airports in the US is not regulated, with airlines being expected to plan their movements in a way that minimises delays for their passengers. Generally, the assumption in the US is that the aviation market does not need to be regulated, and moves to address congestion and delays at airports have tended to be reactive and driven by public and media perceptions of problems, particularly delays arising through excessive flights being scheduled.

- 6.3 However, slot allocation has been regulated at a small number of congested airports. The primary allocation and trading of slots at US airports has been governed by the following key items of legislation:

- The High Density Rule (HDR; 1968);
- The Buy/Sell Rule (1985);
- The Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR-21; 2000); and
- Other airport-specific Rules.

The High Density Rule

- 6.4 Under the High Density Rule (HDR) five US airports were designated as 'high density traffic airports', with limits placed on the number of flights operated for all or part of the day. All carriers were required to apply for arrival or departure reservations from the FAA acting as air traffic manager, and were granted antitrust immunity to discuss allocation of slots and to schedule them. The airports included in the scheme were:

- Chicago O'Hare
- New York JFK
- New York LaGuardia
- Washington Ronald Reagan National
- Newark (restrictions were lifted here 1970)

- 6.5 The Rule was 'temporarily' enacted in 1968 and remained in place for all five airports until 1970, when restrictions were lifted at Newark. The Rule was terminated at Chicago O'Hare in 2002, and at LaGuardia and JFK in 2007, leaving Washington National as the only airport at which operations are still regulated by the HDR. The suspension of the Rule led to an increase in movements and delays, necessitating the implementation of further measures.

The Buy/Sell Rule

6.6 In 1982 an experimental buy-sell rule was introduced, under which approximately 190 slots were transferred between carriers over a six-week period. This was formalised by the 1985 'Buy/Sell' rule (the 'Rule'), under which:

- The initial allocation of slots was grandfathered to the airlines that were using them, and a relatively unrestricted aftermarket in slots was permitted.
- 5% of total slots were retained by the FAA and distributed to new entrants using a lottery.
- Surrendered slots were assigned to a pool and reallocated using a lottery, but with 25% initially offered to new entrants.
- Slots had to be used 80% of the time over a 2-month period.
- Domestic slots could be bought and sold by any party. Trading (and even mortgaging of slots to financial institutions) could, and did, take place even though airlines had only operating privileges over slots, rather than formal property rights.
- To preserve bilateral agreements international slots were ring-fenced and could not be traded, except on a one-for-one basis with other international slots, or a domestic slot could also be used for international flights.
- Commuter slots were ring-fenced to prevent purchase by larger carriers, and certain other categories of slots were protected.

6.7 The Buy/Sell Rule is now also only in force at Washington National airport.

AIR-21

6.8 In April 2000 the Aviation Investment and Reform Act for the 21st Century (AIR-21) was enacted, proposing the gradual phasing out of slot restrictions in order to stimulate airline competition. The Act provided immediate slot exemptions for new entrant carriers or flights to small airports with aircraft with 70 or fewer seats. These exemptions were route and carrier specific, and could therefore not be traded or transferred (although the times of slots could be traded). In order to limit negative impacts only Stage 3 aircraft (those producing less noise) could use the new slots.

6.9 However, although the volume of exemption slots granted could be accommodated at most of the slot constrained airports, at LaGuardia this resulted in large increases in congestion and delays. In response, the number of new AIR-21 slots was fixed at 159 per day, with reallocation by means of a lottery. The FAA was again forced to cap the number of AIR-21 slots within 6 months of the relaxation of the High Density Rule.

6.10 Today exemption slots are only available at Washington National airport. Although AIR-21 remains the most common type of exemption slot, there are others including Vision 100 and Braniff slots: these are FAA-controlled slots given out to small carriers on a temporary basis. The FAA also allows some off-peak slots to be shifted to peak times; these are called exemption slides.

Airport-specific Orders

- 6.11 In anticipation of severe delays following the expiration of the HDR in January 2007, the FAA implemented an order limiting operations at LaGuardia, effective from December 2006. This was extended in 2009, and is due to expire in October 2011⁵⁴. The Order allowed secondary trading in slots to continue through leases, but there was a prohibition on buying or selling slots on a permanent basis. This prohibition was necessitated by the temporary nature of the order – the FAA did not want to allow or encourage carriers to engage in transactions which would assume that the continuation of operating rights beyond the point at which the order is replaced by a permanent solution.
- 6.12 The FAA did not impose equivalent restrictions at the other New York airports, and as a result the New York area experienced particularly severe delays in 2007, impacting on flight operations nationwide: summer 2007 was the worst on record for flight delays. Problems at JFK were compounded by increased usage by domestic flights, which limited the efficient use of the airport's four runways.
- 6.13 The FAA responded by designating JFK and Newark as IATA Level 3 (fully coordinated) airports, and by introducing similar Orders limiting operations, in January 2008. These were also subsequently extended and are due to expire in October 2011⁵⁵. The Orders include minimum usage requirements, originally specified as aggregate 80% usage over two months and later aligned with the IATA World Scheduling Guidelines (and the EU Regulation), through day and time-specific measurement.
- 6.14 The detail of possible replacements to these temporary Orders remains unknown, but the current US Federal Government does not support auctions. The US airlines we interviewed are supportive of a shift towards an approach more aligned with the IATA guidance, similar to that currently adopted by the EU, provided secondary trading can be maintained.

Secondary trading in the US

- 6.15 In spite of the lack of clarity on the long term approach to the primary allocation of slots, and the fact that outright buying and selling of slots is now only permitted at one airport, there continue to be a large number of trades between carriers each year in the US: Delta told us that it typically trades 75-100 slots per season. Although leases and trades are also a feature of the European market, in the US domestic market the volume of trades is much higher.
- 6.16 Not all types of trades occur at all airports. As indicated above, buying and selling of

⁵⁴ Operating Limitations at LaGuardia Airport; Federal Register vol. 74, no. 193; Operating Limitations at New York LaGuardia Airport; Notice of Order; Federal Register vol. 71, no. 248

⁵⁵ Operating Limitations at Newark Liberty International Airport; Federal Register vol. 73, no. 99; Order Limiting Scheduled Operations at John F. Kennedy International Airport; Federal Register vol. 73, no. 13; Operating Limitations at John F. Kennedy International Airport and Operating Limitations at Newark Liberty International Airport; both Federal Register vol. 74, no. 193

slots is only permitted at Washington National, whereas only leasing of slots is now allowed at Newark, JFK and LaGuardia.

- 6.17 In addition to the regulatory constraints, it has been highlighted elsewhere in this report that carriers tend to prefer leasing to sales, as this allows the retention of ownership of the underlying asset whilst also generating revenue. This was supported by the US carriers we consulted, who indicated that trades and transfers are typically on a seasonal basis only, although sometimes with an underlying agreement for longer term use. Delta suggested that between 80 and 90% of US carriers are involved in some kind of slot lease arrangement.
- 6.18 The US airlines interviewed for the study informed us that secondary trades in the US tend to be much simpler (and therefore cheaper to implement) than trades in the EU: the contracts are relatively simple, being less than three pages long, contrasting with what they described as “hundreds of hours of legal costs” for the trades that they had undertaken in the EU. This is because:
- Slot trading is specifically authorised in the US and therefore does not have to be engineered through relatively complex ‘fake exchanges’ as in the EU.
 - A separation between slot holders and operators is applied, which means that for temporary trades the slot holder will remain the same whilst the slot operator changes temporarily. This significantly simplifies leases, as the exchanging of operational rights does not require the use of formal agreements associated with the exchange of titles, thus reducing administrative burden and legal costs. Such a distinction could be considered if the European Regulation is to be revised.
 - In Europe agreements have to be more complex to take into account the potential loss of a slot by a lessee on a certain day.
 - US agreements can be made using carriers’ in-house staff; however outside counsel is required for some non-US transactions, incurring higher legal costs.
- 6.19 Trading occurs through bilateral negotiations between slot owners, facilitated both by informal contacts between airlines and also by regional conferences organised by the Air Transport Association (ATA), which arranges trading sessions at intervals throughout the year in lieu of the IATA scheduling conferences (slot allocation for US internal flights does not follow the IATA process, and these slots are not discussed at its worldwide scheduling conference). We have been informed that these sessions are regularly attended by 23 of the 27 airlines holding slots. To comply with antitrust and competitive regulations slots and slot ‘exemptions’ have a neutral ID number and markets, pricing or service are not discussed. Trading is voluntary, and selling airlines will generally know the identity of those seeking to acquire slots. Trades are recorded by the FAA, which has final approval of all transactions.
- 6.20 US carriers amortise costs of slot acquisition over seven years, providing a basis for establishing the financial implications of slots withdrawn by FAA. In contrast European carriers claim to hold slots in perpetuity and therefore do not amortise over a fixed period of time.
- 6.21 Previously, individuals other than air carriers (e.g. financial institutions) could hold slots, and historically slot holdings at congested airports have been used as collateral on loans and other financial arrangements for airlines in difficulty. However, this

practice is explicitly prohibited by the current Orders in place at Newark, JFK and LaGuardia, and any secondary trading of slots can be between air carriers only.

- 6.22 The only other limitation on secondary trading is a prohibition on trading slots given away by the government, which cannot be transferred to 3rd party. In some cases carriers also cannot change time of operation.

Impacts of secondary trading

- 6.23 Most of the stakeholders interviewed for this study, including airlines, the Air Transport association and the Port Authority of New York and New Jersey (PANYNJ) strongly support secondary trading as the most effective method of increasing slot mobility. Advantages were cited as:

- Simplicity and efficiency;
- Speed and limited costs of administration;
- Ease of coordination with other slot regulations;
- Continual optimisation and adjustment of network;
- Easier exit from markets; and
- Efficient usage of scarce resources.

- 6.24 However, in spite of its recognition of the benefits of secondary trading, the FAA believes that the secondary market may not be sufficiently robust or transparent. It set out these criticisms of the Buy/Sell Rule in the preamble to its controversial proposed auction-based congestion management Rules:

- The Rule creates market distortions by unfairly favouring incumbent carriers;
- Some carriers complained that grandfathering 95% of slots to incumbent carriers left insufficient capacity for reallocation;
- The Rule did not foster a robust secondary market because it did not require any transparency, i.e. interested carriers may have been unaware that slots were available.

The proposed auctions

- 6.25 In October 2008 the FAA published final rules to address congestion at La Guardia, JFK and Newark⁵⁶. Both rules defined a slot as ‘an operational authority to conduct a single Scheduled Operation, seven days a week, during a specific 30- minute period at a specific airport’.

LaGuardia

- 6.26 The key proposals for LaGuardia were as follows:

⁵⁶ 14 CFR Part 93 Congestion Management Rule for LaGuardia Airport; Final Rule
14 CFR Part 93 Congestion Management Rule for John F. Kennedy International Airport and Newark Liberty International Airport; Final Rule

- The Rule planned to ‘develop a robust secondary market’ by annually auctioning a limited number of slots;
- 85% of slots (**‘Common Slots’**) were to be grandfathered ‘to carriers who hold the corresponding Operating Authorization under the LaGuardia Order pursuant to cooperative lease agreements for a period of ten years’. Therefore these slots are **not** subject to reallocation or retirement;
- 15% were defined as **‘Limited Slots’**. 5% were to be retired at the end of the winter scheduling season, in order to reduce delays at the airport, with the remaining 10% being terminated and reallocated over a 5-year period.
- Limited slots were to be awarded to successful bidders via lease agreements which would last until the expiry date of the Rule on March 9, 2019 (ten years after the date of the first auction). These would become **‘Unrestricted Slots’** after reallocation (but only slots selected for auction by the FAA become Unrestricted Slots; i.e. this distinction would not be conferred on slots sold voluntarily by a carrier);
- The proceeds of the auctions were to be used to mitigate congestion in the New York area. Reserve prices were set out in the bidder presentation as \$10,000 for Peak slots and \$100 for Non-Peak;
- Limited and Common Slots (but not Unrestricted Slots) were to be subject to an 80% usage requirement. The FAA reserved the right to withdraw slots if necessary.
- The cap on scheduled operations was reduced from 75 to 71 flights per hour during regulated hours (06:00 to 21:59), representing a 5% retirement of existing slots; and
- Secondary subleasing, transferring and trading were allowed to continue, but with an added transparency requirement – all available sub-leases were to be advertised on an FAA bulletin board, with monitoring for anti-competitive behaviour by the FAA. Final sales terms and prices would be transparent, but actual negotiations would not be disclosed. These options to improve the transparency of the market could also be considered in Europe, if the Regulation is revised, although it is not clear to what extent these have been effective in the US.

JFK and Newark

6.27 Similar proposals were enacted in the Rule for JFK and Newark Airports, with some minor differences:

- The cap was set at 81 flights per hour at both airports during the regulated period (06:00 to 22:59);
- Carriers were initially assigned their ‘baseline operations’ as ‘Common Slots’, set at 20 slots per carrier;
- 90% of each carrier’s slots above baseline were assigned to the carrier in a 10-year lease, also defined as ‘Common Slots’;
- The remaining 10% were designated as limited slots with shorter leases (up to 5 years). The carrier would choose half of the 10% and the FAA would choose the remaining half;
- For the first 5 years of the Rule the FAA would auction one fifth of the limited slots, as proposed at La Guardia.

- 6.28 The AIR-21 and other exempted slots would be merged into a single category of ‘Operating Authorisation’ with the regulatory High Density Rule slots. No special treatment was proposed for the operations conducted with slot exemptions under the High Density Rule.
- 6.29 At each airport the number of slots to be auctioned in each of the 5 years would have been equivalent to around 10 daily rotations.

Auction design

- 6.30 The FAA had contracted companies to design and manage the auctions. Market Design Inc. formulated the methodology for the auctions, with the software designed by Power Auctions LLC.
- 6.31 During the auction, bidders would have been able to electronically submit up to 2,000 mutually exclusive bids at each of the three New York airports; each bid would consist of a unique package of slots. Bidding was to be by means of a single-round sealed bid, with bidders required to express preferences for all packages of interest at a single time. Winners would be chosen as the feasible assignment that maximised total as-bid value. If two or more feasible assignments which would achieve the same maximum payment, the assignment with the greatest number of slots sold would be selected.⁵⁷
- 6.32 A second placed-price approach was proposed: the winning bidder would pay less than bid, unless other bidders together exactly matched the winning bid.
- 6.33 The FAA believed that the model of auction proposed (second placed-price sealed bid auctions) would encourage truthful bidding and minimise potential gaming. The second placed-price auction provides a strong incentive to bid the actual value of the slot and reduces the rationale for speculation: if a speculator has to pay more than all truthful bids to win in the primary market, it is unlikely it would find someone willing to pay more later. If a speculator’s primary rationale for holding slots won in an auction is to prevent competitive entry, the speculator would have to sacrifice the amount paid for the slots, whereas today a slot holder can avoid using up to 20% of its slot capacity without financial penalty under the terms of the use-or-use rule (although this action could trigger a response by the Department of Transportation). The FAA also believed that the use of a single round auction was appropriate given the relatively small number of daily slots to be auctioned each year.
- 6.34 Bidders were prohibited from communicating with one another regarding proposed strategy and bids.
- 6.35 Within five business days after the Auction Date, the FAA expected to publish a list of Winning Bidders, their Winning Packages and their Winning Payments.

⁵⁷ Note we have some questions outstanding to the FAA about the auction design and rationale. In particular it does not seem consistent that 2,000 mutually exclusive bids could be submitted per carrier, given the small number of slots (10 pairs per day) that were to be auctioned. The FAA has agreed to answer these questions but had not done so by the time this report was submitted.

Impacts estimated by the FAA

Methodology

- 6.36 The FAA conducted an impact assessment (referred to as a Regulatory Evaluation) for the proposed slot auction rules. The baseline scenario assumed by the Newark and JFK Final Regulatory Evaluation was that the temporary movement caps currently in place would expire in October 2009, and therefore the Evaluation measures both the benefits of re-introducing caps and the costs and benefits generated by the auctions themselves. For the purpose of this study, only the costs and benefits driven by the auctions are relevant: there is no suggestion in Europe that slot restrictions be lifted where demand exceeds the technical capacity of the infrastructure, as has happened in the US.
- 6.37 The same approach was adopted in its Final Regulatory Evaluation of the proposals at LaGuardia. The calculation of the costs and benefits is relative to two baselines: a no-cap scenario consistent with previous evaluations, and a scenario under which the current temporary caps would be extended into the foreseeable future. Again, only the benefits relative to the 'with cap' scenario are relevant for the purposes of this study; and because the caps proposed in the Rule are lower than those in the baseline these benefits should also be ignored.
- 6.38 The US airlines informed us that they believe the FAA underestimated the cost to airlines of any of its new measures.

LaGuardia

- 6.39 The Final Regulatory Evaluation estimated the following impacts:
- Total net benefits relative to the 'with cap' baseline were estimated at \$1.3 billion. However, \$1.2 billion of these benefits were derived from the reduction of the cap in operations from 75 scheduled plus 6 ad hoc movements, to 71 scheduled plus 3 ad hoc movements. This leaves net benefits of \$65.4m for the auction.
 - Present value benefits of the auction were estimated at \$89.3m, based on increases in airport size on one operation per year resulting from an 'average' shift from lower to higher value service types in response to the auction proposal. These shifts are estimated to occur each year until 2013, when these operations will remain in place until the expiry of leases.
 - Present value costs were estimated at \$23.9m, with total carrier costs 3-4 times greater than those borne by the FAA. FAA costs comprise initial costs of \$1.7m and recurring costs of \$0.9m for each of the five auction years. Carrier auction costs were estimated at \$76,000 initially and \$71,500 for recurring years, and 50 carriers were assumed to participate.

JFK and Newark

- 6.40 The FAA's estimated present value of net benefits of improved slot allocation by auctions was \$238 million at JFK and \$205 million at Newark, again covering the period from 2009 to 2019. These benefits comprise:
- An assumed increase in aeroplane size on one service per year, giving 5 such

increased-size operations at each airport by 2013. The FAA calculated that one increase in aircraft size produces a net economic benefit of \$10.4m a year at JFK and \$8.6m at Newark: for both these figures represent the change in consumer and producer surplus generated by an ‘average’ reallocation of slots. Adding one such change each year for the first 5 years gives estimated NPVs of \$272m at JFK and \$225m at EWR.

- Carrier administrative costs were estimated at \$76,000 per carrier initially and \$71,500 for recurring years. 77 carriers were assumed to participate each year for 5 years at JFK, and at Newark the figure was expected to be 39, giving total undiscounted carrier administrative costs of \$33.4m at JFK and \$16.9m at Newark.
- Total undiscounted administrative costs to the government were estimated at \$6.2 million at each airport, comprising initial FAA auction costs of \$1.7 million and recurring FAA costs of roughly \$0.9 million.
- Combining air carrier and government costs gives total discounted cost of \$33.9m at JFK and \$19.8m at Newark.

Stakeholder views on slots auctions

Legality

- 6.41 Delta Air Lines produced a response which rejected the proposals on legal grounds. It was suggested that selling slots to airlines for a price which exceeds the FAA’s cost of providing the slot would qualify as a tax, and under the US Constitution unelected employees of federal agencies do not have the legal authority to impose taxes. Another two US carriers argued that slot auctions were in violation with the Chicago Convention. The carriers also believed that slot withdrawal and auctions may violate the EU-US Open Skies agreement, although it was structured so that it would not result in withdrawal from any foreign carriers, so this argument appears weak.
- 6.42 It was also highlighted that, despite its proposals the FAA had itself acknowledged that it does not have the power to impose market-based slot allocation systems. This is reflected in the proposed Rule for LaGuardia, which proposed an interim lottery-based solution until the appropriate legal powers could be sought.
- 6.43 One airline also challenged the FAA’s belief that airport slots are its property, which it has the authority to sell or lease as it wishes and stated that, although the FAA can require carriers to obtain slots in order to operate at congested airports, it does not follow that the FAA has ownership of the slots.

Impact on airline profitability and networks

- 6.44 All of the US carriers we consulted argued that the auction proposals would have generated higher costs, and indeed actually did – Delta highlighted the costs incurred in preparing its response to the auction proposals. Although longer term costs were anticipated, none of the carriers had conducted detailed analysis of what these costs might be. Two US carriers estimated that each large carrier would require between 1 and 2 additional full-time slot analysts. This would also be inefficient, as the slot auction process would be a cyclical one, potentially leaving staff with nothing to do for the remainder of the year. Some IT costs were also anticipated, although this would be dependent on the precise model chosen by the FAA.

- 6.45 The airlines argued that the auctions would lead to higher fares and/or reduced levels of investment in capacity improvements, aircraft and other infrastructure. The Port Authority of New York and New Jersey (PANYNJ) stated in a press release that the auctions would lead to airline costs increasing by 12%, and that this additional cost would be passed on to passengers via higher ticket prices.
- 6.46 By the time the programme was cancelled, the airlines had not evaluated what prices they would pay in the auctions or even how they would determine the prices; instead their efforts were focused on contesting the plans. However, carriers do have experience in valuing slots arising from the Buy/Sell Rule. They said that valuation tends to be specific to a particular airline and there is no consistent market value. The valuation of a slot could include other fees or discounts (e.g. ground handling) that are defined as part of the same agreement. All the US carriers we consulted highlighted that there were almost always other commercial factors attached to the value of a slot.
- 6.47 Another frequently cited issue was the potential for instability that the auctions would bring, both relating to the certainty of airline investment and the lack of certainty for customers in their future bookings. Two US carriers suggested that any “economic solution” would be laden with exemptions (such as small community or new entrant carve outs) undermining the benefits.
- 6.48 Stakeholders believed that the least profitable routes would be most likely to be sacrificed if auctions were introduced. The PANYNJ stated in its press release that the auction policy ‘will mean fewer flights to small communities at a time when these communities already are struggling in this economy’ – a Port Authority study estimated that 25 markets would lose direct services to and from New York, with small community routes replaced by high-yielding routes to larger cities. Some routes operated by network carriers could become unworkable if it was no longer possible to connect with their banks of international departures.

Impact on airports and utilisation of capacity

- 6.49 It was also highlighted by the PANYNJ that if the proceeds of the auctions were collected by the federal government the level of charges it could levy on the airlines would be restricted, reducing its revenue with a potential impact on investment in airport infrastructure. Although the FAA intended to spend the proceeds on congestion reduction measures in the New York area, this was not supported by specific commitments. Revenue-neutral charging was suggested by two US carriers as being impossible at airports congested throughout the day.
- 6.50 Airports would themselves have incurred additional costs. An example given by the PANYNJ was the cost associated with accommodating new carriers and moving existing carriers around the airport. This could include negotiations of sub-lets, legal fees, and substantial information costs, for example revising airport signage and publishing new terminal information. A comparable example of the costs incurred could be the occasional movement of carriers between terminals at Heathrow, although at New York these movements would occur on an ongoing basis.
- 6.51 The PANYNJ also suggested in the interview that airport slots may have been better

utilised if airlines were required to pay for them.

- 6.52 All US stakeholders emphasised that it was not the auction proposals, but rather the imposition of the movement caps, which actually result in the reduction in congestion which was ostensibly the aim of the proposed rules. The PANYNJ felt that improvements to air traffic management systems would offer a more effective solution to the problem of airport congestion.
- 6.53 However, despite of its opposition to the auctions as proposed, the PANYNJ emphasised that, whilst auctions of existing capacity may be problematic given the appearance of taking something away, auctions may be a more practical and justifiable option for new airport capacity.

Outcome

- 6.54 In May 2009 it was announced that the slot auctions would be cancelled due to:
- Litigation over the rule and a court-ordered ‘stay’ (delay) – the US Government Accountability Office (GAO) ruled that the FAA did not have the authority to proceed with the auctions. In 1998 Congress had specifically prohibited the FAA from imposing ‘new aviation user fees’, and the GAO concluded that proceeds from the auctions would constitute such a fee.
 - Most of those filing comments were opposed to the auctions, including the PANYNJ.
 - Circumstances had changed since the rules were issued; in particular, the economic downturn had increased financial pressures on airlines and reduced the demand for slots.

7. LEGAL REVIEW

Introduction

7.1 This section sets out the legal review of the Regulation. It has been undertaken by the legal advisors to the team, Clyde & Co Beaumont & Son Aviation.

7.2 This review is divided as follows:

- issues, which in most cases are minor, where the Regulation is no longer consistent with other legislation;
- other issues with the Regulation where clarification could be useful;
- a summary of relevant case law;
- a summary of relevant references from other legislation; and
- constraints from other EU or international legislation, or agreements, on potential amendments to the slot Regulation.

Issues where the Regulation is not consistent with other legislation

7.3 We have identified the following (generally minor) issues with the current Regulation where it is not consistent with other legislation, because this has been changed since the Regulation was last amended. Even in the scenario where no substantial change was to be made to the Regulation, these issues should be addressed, through minor amendments to the Regulation:

- Regulations 2407/92 and 2408/92 have been replaced by Regulation 1008/2008. These Regulations are referred to in Articles 2(e), 2(h), 9.1, 9.2, 10.4(c), 10.4(d) and 10.6. These references should be replaced with references to Regulation 1008/2008.
- The term “regional airport” is used in Article 2(b)(iii). This was defined in Regulation 2408/92, but it is no longer defined, so reconsideration will be required. If the provision is to be retained, one possibility would be to refer to airports with fewer than a specified number of passengers per year. As discussed in section 5 above, this Article is superfluous because almost any application that met the criteria in Article 2(b)(iii) would also meet the criteria in Article 2(b)(ii); coordinators informed us that this provision is never used, and therefore it may be sufficient to delete this.
- Article 8(b) refers to Articles 81 and 82 of the Treaty, which are now Articles 101 and 102 of the Treaty on the Functioning of the European Union, and Regulation 4064/89 on concentrations, which has been replaced by Regulation 139/2004.

Points requiring clarification

7.4 We have identified a number of Articles of the Regulation may merit some clarification or at least attention.

7.5 Article 2(f)(i) provides that, for certain purposes, the definition of air carrier “shall also include business aviation operators, when they operate according to a schedule”. This does not seem a very useful provision, as business services very rarely operate according to a schedule. Business aviation (which is defined in Article 2(e)) generally

is not within the scope of the main provisions of the Regulation, and whether it should be is primarily a policy issue.

- 7.6 Article 3.4 specifies that consultation must take place with, among others, representatives of “general aviation” using the airport. This term is undefined and not entirely clear. One possibility would be to refer to “other air operators” using the airport.
- 7.7 Article 8a.1(c) specifies that slots may be “exchanged, one for one, between air carriers”. The substantially similar wording in the Regulation prior to its amendment by Regulation 793/2004 was interpreted by the English High Court in 1999 (in *R v Airport Coordination Ltd, ex p The States of Guernsey Transport Board*) to mean that exchanges were permitted whether or not money was involved, and practice at the London airports has evolved accordingly. However, as discussed in other parts of this report, there still seems to be some doubt in some other Member States, and in its Communication of 30 April 2008 the Commission said that it did “not intend to pursue infringement proceedings against Member States where such exchanges [i.e. for consideration] take place in a transparent manner ...”.
- 7.8 As discussed in section 6 above, this is not an unequivocal confirmation of the legality of the practice, and is not sufficient for secondary trading to be able to take place in all Member States. If this is consistent with desired policy, therefore, from a legal perspective it would be helpful to clarify the position.
- 7.9 This term has also allowed slot leases to occur. As discussed in section 6, these are in effect two linked slot exchanges: there is an agreement to exchange a slot, and at the same time to undertake an equivalent reverse exchange at a later date. The court’s reasoning in the Guernsey case was based on the meaning of the word “exchange” and the consideration that, if the coordinator had to look behind each slot transaction, the whole system of slot allocation would be unworkable. This implies that slot leases have an equivalent legal status at present to permanent exchanges.
- 7.10 Article 8b (which was added by the 2004 revision) states that the Regulation shall not affect the powers of public authorities to direct that slots be transferred in the context of an investigation under competition law, and adds that such transfers can only take place without monetary compensation. It is not clear why this restriction has been added, and it appears inconsistent with what the Commission said in the commitments recently accepted in connection with the alliance between British Airways, American Airlines and Iberia (paragraph 1.2.10), to the effect that arrangements to give up slots to competitors “may provide for monetary and/or other consideration”. This could be addressed by deleting the reference to monetary considerations in this Article.
- 7.11 Article 8.5 specifies that coordinators are to take into account, in addition to industry rules and guidelines “local guidelines proposed by the coordination committee and approved by the Member State ...”, provided they comply with certain requirements. However, as discussed in more detail in section 4, the permitted scope of such local guidelines is unclear.
- 7.12 Article 10.4 specifies certain limited exceptions to the 80% “use it or lose it” rule. One of these, Article 10.4(c) is “serious financial damage for a Community air carrier

concerned, with, as a result, the granting of a temporary licence by the licensing authorities pending financial reorganisation”. It is not clear whether the financial damage this refers to is the likely result of not renewing the carriers’ slots, or the reason for the carrier not operating them for at least 80%. The references to temporary licence and reorganisation suggest the latter, but in this case this is really a different category of exception to the others and would be better dealt with separately, for example, by providing that a carrier undergoing financial reorganisation (to be defined) could be exempt from the 80% rule, but for a limited period (perhaps one or two seasons only) and subject to certain other limits (such as, that this could only apply to a certain percentage of its routes). It is also for consideration, as a matter of policy, whether the extenuating factors should be extended to cover any other circumstances.

7.13 The Regulation has been amended on three occasions to suspend the 80% rule for a season, in recognition of difficulties faced by airlines in times of crisis. On each occasion this has required the full legislative process, involving the Commission, Parliament and Council, with the result that the final legislation is often not adopted until near the end of the season in question. There is a separate policy issue as to whether the 80% rule should be suspended, but if it is to be, not confirming this until the end of the season concerned jeopardises much of the benefit of doing so. This could be addressed by giving the Commission the power to make such exceptions (in specified circumstances) by way of Commission Regulation through a comitology procedure.

7.14 Article 10.8 deals with services operated by two or more carriers by way of joint operations, such as franchises or codesharing. This has given rise to some uncertainty with respect to the scope of a commercial agreement that is required to be a ‘joint operation’. There is a substantial difference between a limited codeshare arrangement and a full joint venture with sharing of revenues and costs. This could be addressed by clarifying what the scope of a joint operation must be to meet this Article. However, this would be unnecessary in the event that secondary trading and leases of slots were explicitly permitted by the Regulation.

Case law

7.15 Apart from the Guernsey case discussed under above, we have identified only two other national court judgments concerning the Regulation; there are no relevant judgements by the European Court of Justice. Neither of these judgements is significant for this review:

- The English High Court ruling in *R v ACL ex p Aravco*, dated 14 July 1998, but this was concerned with ad hoc slots, which at the time were not covered by the Regulation but have been since the 2004 amendment, and so is no longer relevant.
- The High Court of Ireland, of 3 July 2006, in *Ryanair v Commission for Aviation Regulation*, which was concerned with the change of designation of Dublin Airport from “schedule facilitated” to “coordinated”. However, this does not raise any relevant points of interpretation.

Other relevant EU legislation

- 7.16 The only other EU legislation that is relevant to slots is competition legislation and Regulation 1008/2008.

Competition

- 7.17 Council Regulation 487/2009 empowers the Commission to adopt regulations exempting certain types of agreements, decisions and concerted practices from Article 101, including, among others, those which have as their object “slot allocation at airports and airport scheduling”, provided that the Commission shall take care to ensure consistency with Regulation 95/93. Although the Commission had issued such a block exemption under the previous empowering legislation, the last expired at the end of 2006, and there is no such current block exemption, apparently because the Commission does not consider it necessary.

Regulation 1008/2008

- 7.18 One of the basic principles of the Regulation is that “Community air carriers shall be entitled to operate intra-Community air services” (Article 15.1), but, although it is not expressly mentioned, this entitlement is subject to the practical consideration of operators being able to obtain the necessary slots at airports.
- 7.19 The Regulation contains provisions on public service obligations (Articles 16-18), and Article 9 of the Slot Regulation provides that slots may be reserved for a PSO route.
- 7.20 The Regulation provides that “the exercise of traffic rights shall be subject to published Community, national, regional and local operational rules relating to safety, security, the protection of the environment and the allocation of slots” (Article 19.1). The words “local operations rules relating to ... the allocation of slots” may be a not entirely exact reference to the local guidelines mentioned in Art 8.5 of the Slot Regulation.
- 7.21 The Regulation entitles a Member State to regulate the distribution of air traffic between airports serving the same city (Article 19.2-5). Art 10.6 of the Slot Regulation provides that the distribution of pool slots to applicants shall be without prejudice to the predecessor provision (Article 8.1 of Regulation 2408/92).

Constraints imposed by other legislation

- 7.22 We have considered whether changes that could be made to the Regulation could be successfully attacked as being in breach of fundamental principles of EU law, or other international law. This risk applies primarily to legislation removing or qualifying grandfather rights in slots, or introducing new charges for slots, such as slot reservation fees. Two general legal principles may be relevant – that of “legitimate expectations” and “human rights”. In addition, it may be possible for airlines to argue that some policy options are inconsistent with either the Chicago Convention or bilateral agreements, particularly the EU-US bilateral.

Legitimate expectations

- 7.23 The principle of legitimate expectations applies when the administration has by its actions induced a person to entertain reasonable expectations as to his/her rights and obligations.
- 7.24 The possible argument that airlines could raise is to the effect that they had invested significantly in operating routes in the expectation, encouraged by the confirmation of grandfather rights in the Regulation, that they would continue to enjoy the slots with which to operate those routes.
- 7.25 While there does not appear to be any directly relevant case law, the defence to such an argument would be based principally on the basis that airlines could not reasonably expect to enjoy slots in perpetuity, particularly as their current legal rights are a creation of legislation.
- 7.26 Consequently, we think it unlikely that a challenge on such grounds would succeed, provided sufficient notice were given of the intention to end grandfather rights, and/or if it were proposed to modify them, for example, by limiting grandfather rights to a fixed number of seasons, as this would be likely to successfully counter any argument that investment had been made on the basis of a false expectation. It is difficult to say what a necessary period of notice/change would be for such purposes, but, given the level of investment, it would seem likely to be at least three years (a period which, traditionally, a start up route might reasonably be expected to show profitability). Airlines are likely to argue for a substantially longer period, for example related to the depreciation period of aircraft.

Human rights

- 7.27 Fundamental rights enshrined in the European Convention on Human Rights are part of the general principles of EU law (Opinion 2/94 [1996] ECR I-1759 para 34).
- 7.28 A possibly relevant principle is that contained in Article 1 of the First Protocol to the Convention on protection of property:
- “Every natural or legal person is entitled to the peaceful enjoyment of his possession. No one shall be deprived of his possessions except in the public interest and subject to the conditions provided for by law and by the general principles of international law.
- The preceding provisions shall not, however, in any way impair the right of a State to enforce such laws as it deems necessary to control the use of property in accordance with the general interest or to secure the payment of taxes or other contributions or penalties.”
- 7.29 Although the rights are referred to as “human”, they exist for “every natural or legal person”, which would include airline companies.
- 7.30 The European Court of Human Rights has interpreted “possessions” widely, as including intangible property (*Tre Traktor v Sweden* (1990) 12 EHRR CD128, a case concerning the removal of a licence to serve alcoholic drinks). It is therefore conceivable that it could be interpreted to apply to the right to be allocated slots pursuant to grandfather rights under the Regulation.

- 7.31 However, the interference with enjoyment of possessions can be justified if “necessary to control the use of property in accordance with the general interest”, having regard to the principle of proportionality. General interest arguments in favour of qualifying grandfather rights could be made on the basis that this would encourage competition and thus benefit the users of air services. A further argument in defence would be that grandfather rights have been created by legislation, and what legislation can give it can also take away, particularly where the "possession" in question is not an absolute property right, but a type of licence operating from time to time. In addition, although a company is entitled to plead human rights, a company is likely to find it more difficult to succeed with a challenge than an individual, as the consequences for a company are likely to be less severe and the risk of the eventuality in question might be regarded as an incident of the company’s business arrangements.
- 7.32 The arguments on each side would be complex, and would be likely to focus on whether the benefits of new entry sufficiently outweighed the benefits which passengers enjoy from the certainty given by established schedules by established carriers, particularly in the light of evidence that significant new entry has been proved possible with the existing rules.
- 7.33 In the most directly comparable case, where the Federation of Tour Operators (FTO) attempted to challenge UK Air Passenger Duty on the grounds that the government was interfering with their right to property, the England and Wales Court of Appeal found that the increased financial burden on the FTO was an incident of their business arrangements, and the Government's interference with the right to property was found to be proportionate and not to breach Article 1.
- 7.34 It seems to us to be possible that airlines would seek to challenge the withdrawal of grandfather rights on these grounds. As there is no directly relevant case law, it is impossible to be certain as to which side would be likely to prevail in such argument. It would be necessary to show that the burden imposed on the airlines did not outweigh legitimate general interests, and a reduction in rights would be less likely to be invalidated than total withdrawal.

Chicago Convention

- 7.35 The only possibly relevant provision of the Chicago Convention is Article 15, which is headed Airport and similar charges, and the last sentence of which provides: “No fees, dues or other charges shall be imposed by any contracting State in respect solely of the right of transit over or entry into or exit from its territory of any aircraft of a contracting State or persons or property thereon”. In interviews undertaken for this study, airlines have indicated that they believe that either slot reservation fees or withdrawal of slots would be incompatible with the Chicago Convention, although they were not able to explain precisely why they believed this to be the case.
- 7.36 However, even if a charge for slots were made for slots, in our view it would not be inconsistent with this provision, because it would not be a charge imposed “in respect solely of the right of transit over or entry into or exit from” the territory of a state. A challenge to UK Air Passenger Duty on the grounds that it contravened Article 15 was dismissed by the English High Court in 2007, largely on this ground.

EU-US Open Skies Agreement

7.37 Although there is nothing in this Agreement to prevent a charge for slots, it would have to comply with the conditions in Article 12 on user charges, which are more extensive than in normal bilateral agreements:

"1. User charges that may be imposed by the competent charging authorities or bodies of each Party on the airlines of the other Party shall be just, reasonable, not unjustly discriminatory, and equitably apportioned among categories of users. In any event, any such user charges shall be assessed on the airlines of the other Party on terms not less favourable than the most favourable terms available to any other airline at the time the charges are assessed.

2. User charges imposed on the airlines of the other Party may reflect, but shall not exceed, the full cost to the competent charging authorities or bodies of providing the appropriate airport, airport environmental, air navigation, and aviation security facilities and services at the airport or within the airport system. Such charges may include a reasonable return on assets, after depreciation. Facilities and services to which charges are made shall be provided on an efficient and economic basis."

7.38 The requirement that a charge must not exceed the full cost of providing the facilities could significantly limit the ability to introduce a charge for slots, in addition to other airport charges. This could apply to both withdrawal of slots, and slot reservation fees, although in the case of slot reservation fees the issue of potential incompatibility with the agreement would seem to be significantly reduced if the fee offset other airport charges.

7.39 Certain US airlines are contesting the Emissions Trading Scheme (ETS) on a number of grounds, including one very similar to this. Therefore, the European Court ruling on the ETS could in due course provide guidance as to the view the Court might take on compatibility of either slot withdrawal or slot reservation fees with the EU-US Open Skies Agreement.⁵⁸

7.40 The airlines made a similar argument against the proposed slot auctions at the New York airports. Whilst the FAA rejected this, it did so on the basis that the revenue from the slot auction was to be used to fund improvements to the New York airspace and airport system⁵⁹. If this condition was also applied in Europe it would be a significant constraint on the use of revenue from auctions or other slot-related charges.

7.41 It is also possible an airline might try to argue that, if a charge for slots appeared to disadvantage it relative to other airlines, this infringed Article 2 of the Agreement (on fair and equal opportunities); this term is common in many bilateral agreements and is discussed further below. We have reviewed the rest of the Agreement but consider there is no other Article which could present a problem.

Other bilateral agreements

7.42 While bilateral air services agreements between States are not always in standard

⁵⁸ Case C-366/10

⁵⁹ 14 CFR Part 93, Section III.A.7

form, generally they do not contain any provision which would clearly prevent some sort of charge being imposed in respect of slots, provided such charge were imposed without discrimination. Such a charge would not differ in principle from airport landing charges, which are almost universal and never suggested to be incompatible with bilaterals.

- 7.43 However, some bilaterals may contain a requirement that charges be related to costs (as the EU/US Agreement), which could significantly limit the ability to introduce anything that could be interpreted as a charge for slots particularly if the revenue was not to be retained within the air transport system. This would apply to both slot reservation fees and slot withdrawal.
- 7.44 Bilateral agreements invariably contain a “fair and equal opportunity” clause, which provides that “there shall be fair and equal opportunity for the designated airlines of both Contracting Parties to operate the agreed services on the specified routes between their respective territories”. It has never been entirely clear whether such a provision imposes any obligation on the states party to ensure that the slots necessary to operate the agreed services are made available, but we are not aware of any arbitration or legal proceeding which has held that it does impose such an obligation, and indeed Regulation 95/93 is based on the assumption that it does not impose any such obligation, because it removes entirely from EU Member States the right to intervene in the slot allocation process. Hence, although such an argument could be made, it seems unlikely that a third country could argue successfully that EU legislation removing or qualifying grandfather rights in slots infringed the fair and equal opportunity clause - even if it could be argued that it would have a greater impact on non-EU airlines than EU airlines (for example, in the case of removal of a percentage of an airline's slots, on the basis that this could more easily be withstood by airlines with a portfolio of slots for short-haul services than by airlines with comparatively few slots for long-haul services).

Airport Charges Directive

- 7.45 We have also considered whether the Airport Charges Directive (2009/12/EC) contains any provisions which would prevent slot reservation fees. The Directive imposes relatively few obligations, mostly relating to non-discrimination between users and requirements for consultation and provision of information. Even if a carrier tried to claim that it was unfairly discriminated against by a slot reservation fee, Article 3 specifically allows modulation of charges for reasons of public and general interest, and therefore there should be no issue.

Conclusions

- 7.46 The most significant legal issue with the current Regulation is the lack of clarity on secondary trading. In addition, a number of minor adjustments should be made to the Regulation to ensure it is consistent with other legislation which has now been updated, and to address terms which are inconsistent or redundant. However, none of these changes (other than secondary trading) would have a significant impact.
- 7.47 The policy options which generate legal issues are withdrawal/auction of slots, and slot reservation fees. A proposal to withdraw slots from airlines could be challenged

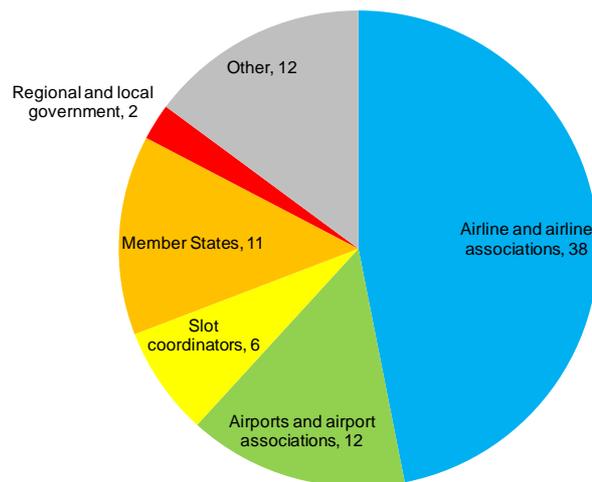
on the basis of inconsistency with bilateral air service agreements (particularly the EU-US Open Skies bilateral) and established principles of European law, particularly the Convention on Human Rights and the principle of legitimate expectations. Although airlines have also argued that this would also be inconsistent with the Chicago Convention, in our view this argument is weak. There is also a risk that any slot reservation fee could be challenged on the basis of inconsistency with the EU-US and other bilateral agreements but this risk can be limited if the slot reservation fee offsets other airport charges.

8. RESULTS OF STAKEHOLDER CONSULTATION

Overview of responses

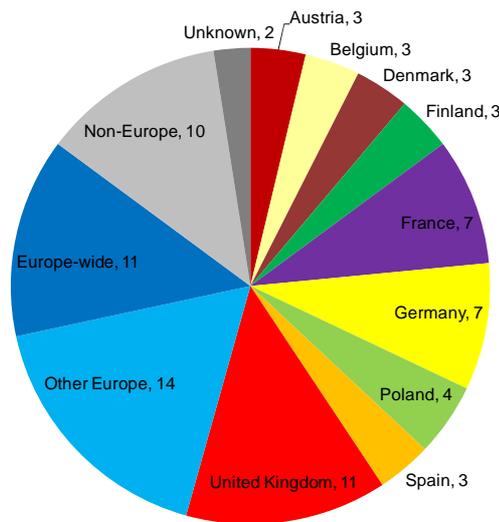
- 8.1 Figure 8.1 shows the number of responses received by category of stakeholder. Almost half of the respondents were airlines or airline associations; most of these respondents were operators of scheduled air services. The 'other' respondents include air navigation service providers (ANSPs), other aviation industry stakeholders, academic institutions, non-governmental organisations, competition authorities, a legal firm and an individual citizen.
- 8.2 Information submitted by airlines and other stakeholders is generally consistent with that provided to us in bilateral interviews. However, several of the slot coordinators that provided detailed information to us in the bilateral interviews, including ACL, FHKD and AENA, did not respond to the open public consultation. EUACA submitted a response, which in principle covers all the coordinators; however as there are differences in view between the coordinators, EUACA could not express views in response to some of the questions.

FIGURE 8.1 RESPONSES RECEIVED TO PUBLIC CONSULTATION



- 8.3 More of the responses came from stakeholders based in the UK than any other Member State. There were also a large number of responses from Europe-wide organisations (such as airline associations), stakeholders based in non-European States, and stakeholders based in France and Germany.

FIGURE 8.2 STATES OF ORIGIN OF RESPONDENTS



Summary of stakeholder views

8.4 Airlines and airline associations were satisfied with the functioning of the current Regulation and consequently, most respondents within this group did not support the proposed amendments. Where respondents were supportive of amendments they often highlighted alternative approaches, frequently at a Member State or local level, which would not need amendment to the Regulation. Several airlines highlighted that the most important issue was the shortage of airport capacity, which changes to the Regulation would not address.

8.5 The airports and airport associations more frequently identified areas for change and were therefore more likely to identify benefits in some of the options raised in the consultation. This also applies, to a lesser extent, to the coordinators, although they either did not express any opinion on, or opposed, the most radical options for revision to the Regulation (auctions and withdrawal of grandfather rights). There was more divergence amongst the Member State and ‘other’ respondents, although these stakeholders were more supportive of amendments to the Regulation than the airlines. Nonetheless France, Italy, Belgium, Finland and another Member State opposed almost any changes to the Regulation, whereas the UK, Sweden, Poland and Greece supported more of the possible changes, although all opposed the most radical change (withdrawal of grandfather rights).

Questions relating to the current operation of the Regulation

Question 4: How well do you believe the Regulation is currently functioning? What problems, if any are there with its current operation?

8.6 **Airline and airline associations:** Almost all airlines and airline associations argued that the Regulation was functioning well and that it was not necessary to make any significant changes to it; this view was shared by scheduled, charter and low cost operators and their associations. Airlines argued that the Commission’s priority should be to ensure that the Regulation is properly implemented in all Member States. Several

also emphasised that it was necessary to expand capacity at congested airports and that the most the Regulation could hope to achieve was to manage the shortage of capacity, not generate new capacity. The only airline not to consider the Regulation to be functioning well was the business aviation operator Netjets, which argued that business aviation is unfairly disadvantaged, because at most EU airports it is not possible to gain historic rights to slots on the basis of total operations; Netjets also pointed out inconsistencies in interpretation of the Regulation between coordinators. Finally, a business aviation airline association shareholder and flight operations manager suggested that the current Regulation was not being complied with, citing a number of issues at Vienna airport.

- 8.7 **Airports and airport associations:** Most airports and airport associations felt that the current Regulation was functioning well, although almost all highlighted specific aspects which could be improved. Many highlighted the need to shift from the current administrative mechanism to one which effected a more efficient use of airport capacity, for example by encouraging larger aircraft or by enhancing incentives and sanctions to increase the actual usage of allocated capacity. ACI Europe, Fraport, BAA and the German Airports Association emphasised that the current system had developed to cater for the needs of the network carriers and was not necessarily beneficial to airports or reflective of recent industry changes. Fraport suggested that the work done by coordinators was not generally recognised, and that some form of incentive scheme may be worthwhile. ACI Europe, BAA and Manchester Airport also believed that in some states (it was not stated which) the independence of the coordinator was ‘questionable’; and both Oslo and Manchester Airport highlighted the difficulties caused by the conflict between slot time and scheduled time. This was reflected by Oslo and another airport managing body, which urged measures to ensure greater consistency between flight plans and slots; the other airport adding that there should be more possibility to take account of local conditions and clear guidance if secondary trading were introduced. Manchester Airport also suggested that the ownership of slots should be defined, and that the capacity parameters currently used in the coordination process may not be the most effective. Finally, another airport operator added that the current new entrant rule was ineffective and that local circumstances were not sufficiently considered.
- 8.8 **Member States:** Most Member States were satisfied with the functioning of the Regulation, with the Belgian CAA indicating that the lack of complaints received suggests that no major revisions are required. In spite of the general satisfaction, several other national governmental organisations did identify various issues and potential improvements. ENAC suggested that, although the amendments introduced by 793/2004 have been effective some problems remain. The UK CAA and DfT suggested changes to improve the transparency of slot allocation, the introduction of additional market principles and validation of secondary trading as currently takes place in the UK. Both DGAC Spain and the Hellenic CAA suggested better clarification for business aviation and more action to ensure consistency between flight plans and slots. DGAC Spain also highlighted a need for better clarification of secondary trading and for changes to the new entrant rule. The Hellenic CAA also suggested more specific criteria for allowing withdrawals in response to violations. The Polish Civil Aviation Office and another national governmental organisation cited a number of issues, the former urging clarification and review of the issues of

coordinator independence, secondary trading, local rules, new entrants, information and the consistency between flight plans and slots. Issues raised by the latter included imprecise and often flouted rules on coordinator independence and the large margin of interpretation left to coordinators, meaning that the Regulation has to be amended whenever there is major turmoil in the air transport market.

- 8.9 **Slot coordinators: Coordinators also believed the Regulation** to be functioning well but pointed out that clarification of some aspects would be helpful. Schedule Coordination Austria (SCA) suggested a number of changes including the introduction of monetary mechanisms to the allocation process and removal of the new entrant rule and schedule facilitation. The Danish coordinator requested clarification on how to treat carriers with suspended AOCs and how coordinators should be funded, and the French coordinator highlighted the need for better coordination with flight planning, facilitating access for new entrants and encouraging increases in capacity.
- 8.10 **Other:** Other stakeholders expressed a wide diversity of opinion. The government of the Canary Islands argued that some improvements should be made, for example to the independence of coordinators, and to give a direct role for regional government in slot allocation decisions. The Airport Regions Conference argued that the Regulation should take into account impacts of slot allocation on regional connectivity.
- 8.11 The European Express Association (EEA) believed that the Regulation was largely effective and did not recognise a need for amendments, emphasising that variations in implementation and the shortage of capacity are the key issues. Danish Aviation believed that the Regulation is functioning well overall, but also cited inconsistencies in application and issues related to independence and transparency. Norton Rose suggested that, despite the vast improvements brought about by the Regulation, clarification was still required in several areas. The French Competition Authority highlighted the issues of coordinator independence and transparency, and cited the limitations on new entrants to the market imposed by the grandfather-based system. The Polish Air Navigation Services Agency (PANSAs) would welcome the ability to introduce coordination at non-congested airports and/or for certain times of day only. The Gatwick Area Conservation Campaign and UK Aviation Environment Federation stated that the Regulation was economically and environmentally inefficient and could be addressed by market-based measures, a view echoed by a Spanish academic thesis which highlighted the economic inefficiencies inherent to the current system.

Question 5: Do you agree with the issues raised in the Commission's 2008 Communication on the operation of the slot Regulation, and why?

- 8.12 The 2008 Communication highlights the following issues:
- The independence of coordinators was not universally enforced;
 - Not all coordinators were providing transparent slot information;
 - Local guidelines should be compliant with Community law;
 - The Regulation does not specify whether secondary trading is permitted, and therefore the Commission would not take infringement proceedings against States which permitted secondary trading and this was in a transparent manner; and
 - There was a need to ensure consistency between slots and flight plans.

- 8.13 **Airline and airline associations:** Most of the airline and airline associations argued that despite agreement with some or all of the points raised in the Communication, these were often not Europe-wide issues and would be best addressed by better implementation of the current Regulation rather than revisions. The Fédération nationale de l'aviation marchande (FNAM) believed this to be the case for most of the points, with the exception of secondary trading which it opposed and did not believe required revision of legislation. Some respondents were in agreement with the issues raised in the 2008 Communication, although the extent of the problems may vary between States, and one carrier had not experienced any of the issues. British Airways was largely in agreement, but suggested that the issue consistency between flight plans and slots should be first addressed by ensuring consistent application of the current Regulation before any amendments are considered. Two of the stakeholders which believed that a revision was unnecessary argued that the real issue was the lack of airport capacity, and that slot allocation should serve the often seasonal needs of carriers and should not be used as a market manipulation tool. Cathay Pacific believed that the question was irrelevant, and that the real issue was what changes could be made to improve efficiency and increase the number of slots available.
- 8.14 **Airports and airport associations:** Most airports and airport associations were in agreement with the issues raised in the Communication, although many emphasised that the most pressing need was to encourage more efficient use of scarce airport capacity as growth in demand continues to outpace increases in capacity. ACI Europe, BAA and Manchester Airport also emphasised some coordinators' lack of independence and transparency of information (it was not indicated which States this referred to). Another airport operator focused on local rules and secondary trading, expressing support for the former and opposition to the latter.
- 8.15 **Slot coordinators:** Both EUACA and Airport Coordination Norway hoped for more clarity on the issue of secondary trading. EUACA also emphasised the need for stronger requirements regarding independence and transparency, and suggests clarification of Article 14.1 regarding reconciliation between slots and flight plans.
- 8.16 **Member States:** DGAC France, ENAC and the Polish Civil Aviation Office generally agreed with the points made in the 2008 Communication, although DGAC considered that the issue of secondary trading should be approached with caution. The UK CAA / DfT, Belgian CAA and Swedish Transport Agency were generally in agreement with most of the issues identified in the Communication, although in the case of independence of coordinators and consistency of flight plans the UK CAA / DfT suggested that the better enforcement rather than changes to the Regulation was the solution. The Belgian CAA believed that the combined coordinator database had addressed the issue of data transparency, and the Swedish Transport Agency indicated that independence and transparency were not issues in Sweden. The issues of independence and coordination with flight plans were emphasised by the Hellenic CAA, although it was not stated whether changes to the Regulation were the best means to address the issues. Transparency was understood by the UK DfT and CAA to be an issue which should be addressed in other States, and the importance of ensuring that any changes to the Regulation do not impede secondary trading in its current form was also emphasised. DGAC Spain made a request for generally more uniform application of the Regulation. Based on its experience another Member State

felt that the only immediate legislative change required was to clarify secondary trading. Finland was the only Member State to suggest that none of the issues have been a problem.

- 8.17 **Regional and local government:** The Airport Regions Conference highlighted the issue of local rules, specifically that these tend to be formulated without consulting local and regional stakeholders. It was stated that by including the relevant authorities airports may better meet the needs of their local regions.
- 8.18 **Other:** Where an opinion was stated, most respondents generally agreed with the issue set out in the 2008 Communication. For example, the Danish Competition and Consumer Authority (DCCA) believed that most of the issues raised in the Communication are essential for optimal competition. The French competition authority was more selective, emphasising that the issues of most relevance today were data transparency and the independence of the coordinator, and the Spanish academic believed that, although providing a critical first step, the 2008 Communication should be supplemented by development of more market-based approaches.

Question 6: How has the availability of slots influenced the ability of air carriers to expand or reshape their networks?

- 8.19 **Airline and airline associations:** Almost all respondents highlighted the significant impact of slot availability on airline networks. This impact was most frequently illustrated in terms of how restricted availability can limit the ability of airlines' networks to grow and adapt. Many of the stakeholders highlighting this issue added that the key issue here was limited historical investment in capacity rather than the availability of slots. NetJets was one of the few stakeholders to have responded by moving to different airports – it cited multiple moves to less congested airports. Some carriers took a different approach, emphasising the ways in which available slots have been used to expand networks – for example easyJet at Gatwick, Orly, Madrid and Amsterdam. FNAME suggested that the vast expansion of low cost carriers suggests that the current rules have not been a barrier to the development of new entrants. ELFAA questioned the need for some airports to be coordinated at all, arguing that the status is self-awarded by some airports to justify further investments in capacity.
- 8.20 **Airports and airport associations:** All airports cited shortages in capacity at peak times which limit the availability of slots; most suggesting that this could limit the growth of both airlines and airports, with negative consequences for regional economic development. Manchester Airport identified similar capacity constraints, but did not believe that these constraints had been severe enough to exert any significant limitations on carriers' ability to grow or reshape their networks. Similarly, Oslo Airport highlighted that, despite the limitations, the low cost sector had still been able to build a strong network.
- 8.21 **Slot coordinators:** The slot coordinators gave a mixture of responses. Whilst identifying capacity as being an issue, Airport Coordination Denmark (ACD) suggested that home base hub carriers create their own capacity problems in their efforts to offer the fastest connections. Schedule Coordination Austria (SCA) believed that if capacity were available airlines would be able to react to market requirements

much more quickly. Brussels Slot Coordination highlighted the various ways in which airlines can respond to capacity limitations. EUACA said that coordinators are often not aware of airlines' plans and what they were unable to implement because of a limited availability of slots. COHOR suggested that carriers have been able to develop at all airports except Heathrow.

- 8.22 **Member States:** The UK CAA and DfT highlighted how the secondary market had allowed significant movement of slots even in spite of the severe limitations on capacity at Heathrow and Gatwick airports, and DGAC France described how the growth of low cost carriers has been possible in spite of the lack of slots at some French airports. In contrast, DGAC Spain highlighted the significant increases in capacity at most Spanish airports, although suggested that carriers may still have some issues at certain peak times. The Swedish Transport Agency, the Polish Civil Aviation Office and another national governmental organisation cited the lack of capacity problems in their states, but the Polish Civil Aviation Office highlighted that the development of its carriers' networks is impeded by shortages of capacity at other European airports. Finally, ENAC focused on the rigidity of the slot allocation system, which contrasts with the rapid change of the aviation sector in general.
- 8.23 **Other:** All responding stakeholders highlight the limitations on airlines' networks imposed by the shortage of airport capacity and slots. The French competition authority added that the lack of available capacity at French airports had limited the growth of the low cost sector compared with other European states.

Question 7: What are in your view the main changes and challenges in the aviation sector which have had impacts on the slot allocation system? Do you think airline alliances have had any impact on the allocation of slots? Please explain why.

- 8.24 **Airline and airline associations:** The primary change identified by carriers and associations as having an impact on the slot allocation system is the overall increase in demand relative to the limited increases in capacity. Many carriers also highlighted the increasingly competitive environment and the challenges this brings – an issue particularly highlighted by the network carriers, one concerned about the usage of scarce hub capacity by low cost carriers using smaller aircraft. easyJet believe that the increasing competitiveness of the airline sector has in itself driven compliance with the Regulation – as capacity has become more scarce airlines have focused more on the allocation process and actions of the coordinators. Thai Airlines believed that slot trading had been the main change, and that this would result in large airlines monopolising the slot market. A number of stakeholders identified a link between the airline alliances and the slot allocation system; some carriers believed that alliances have had the advantage of enabling exchanges of slots between partners, whilst several stated that airline alliances have not made the challenge of accommodating demand with limited capacity any easier. NetJets highlighted the problems caused by alliances for business aviation, as they can dominate certain airports and further diminish slot availability. Another respondent suggested that the growth of alliances had increased competition by promoting consolidation among network carriers and allowing low cost carriers to obtain the capacity released.
- 8.25 **Airports and airport associations:** Again a number of stakeholders highlighted the

continuing growth in aviation (and in some cases also low cost airlines) as being a significant influence on the slot allocation process (another airport manager also highlighted the shift towards hub networks as causing congestion at certain times). The main change identified by Schiphol Airport was the change in definition of a slot, from scheduled arrival or departure to access to runways, gates, terminals and so on. Schiphol also suggested that slots have become competitive instruments for airlines and alliances. In contrast with the views expressed by some of the airlines, BAA suggested that most slot trading is now within alliances, potentially restricting access for non-aligned carriers. Another airport operator highlighted that slot allocation does not take into account alliances.

8.26 **Slot coordinators:** Airport Coordination Norway highlights the main challenge as being the rapid turnover of airlines and accelerating pace of change. SCA suggests that the existing Regulation does not reflect the needs of the low cost carriers. Brussels Slot Coordination, EUACA and ACD all identified impacts of alliances: Brussels Slot Coordination in terms of the reduction in competition where one alliance is dominant, EUACA in terms of the slot transfer possibilities offered, and ACD in terms of the additional traffic which they can attract to the hub airport.

8.27 **Member States:** The Belgian CAA highlighted the main challenges as being increased competition and financial pressures due to the recession, the latter echoed by DGAC Spain which also emphasised the significant growth in low cost traffic at its airports. DGAC France also highlighted the growth in low cost traffic, and suggested that their high frequency services have accentuated capacity issues. Several Member States discussed the impact of alliances, and DGAC France identified alliances as one of the main changes having an impact on the slot system. One Member State described how increased cooperation between carriers has supported the concentration of traffic around small groups of carriers at hub airports, impeding the competitiveness of smaller carriers and reducing their access to attractive slots; although it also highlighted their advantages in terms of providing economies of scale. The Swedish Transport Agency and Polish Civil Aviation Office reflected this response, contrasting the increased ability of their members to adapt to the market with the comparative disadvantages of non-aligned carriers. The Belgian CAA suggested that alliances play an important role from a commercial and operational perspective, as they receive a large proportion of slots. DGAC Spain and the UK CAA and DfT suggested that alliances may have promoted greater fluidity; with the UK stakeholders adding that many slot trades have been between alliance partners (ENAC and the Polish Civil Aviation Office also suggested that alliances facilitate the exchange of slots between their members). The UK CAA / DfT also emphasised that alliances are not the only form of cooperation, and indeed can be regarded as a weak form in comparison with other models.

8.28 **Other:** Norton Rose identified a key issue as being an excess in capacity resulting from the economic downturn, although also highlighted other developments, such as the merger of some European flag carriers and the development of low cost airlines and regional airports. Whilst recognising the potential efficiencies and benefits offered by alliances, Norton Rose also highlighted possible negative effects on competition. This view was supported by the French Competition Authority, which suggests that alliances could be used as a means of circumventing the new entrant rule by allowing

the takeover of smaller carriers in order to obtain their slots. It also highlighted ‘babysitting’ by alliance partners as being a means by which carriers sought to avoid returning slots to the pool. ENAC suggested that the large flexibility which exists in slot trading encourages alliances between carriers, and Danish Aviation focused on the issue of growing demand and insufficient capacity, and had no indication of the effects of alliances.

Options for revision of the Regulation

Option B1: Strengthen the independence of the coordinators

Option B1.1: Organisational separation of coordinator

Question 8.1: What measures have the Member States taken to ensure that coordinators are functionally separated from any single interested party?

- 8.29 **Airline and airline associations:** Varying degrees of independence was cited as an issue by many respondents, although in some cases it was believed that this had now been largely resolved by the actions of the Member States concerned; for example easyJet cited improvements in Greece and Italy, and suggested that funding arrangements were now the key issue. The speed of change (particularly in Greece) was concerning for some carriers, and British Airways suggested that there was little evidence to suggest that any action was being taken to tackle those Member States which had been slow to enforce the independence of their coordinators. The carrier also highlights the successful measures taken in the UK, highlighted by other carriers as being fair and transparent. The Swiss, German, French, Finnish and Dutch coordinators were also cited as ‘best practice’ examples, although the role taken by the respective states in ensuring this was not clear. NetJets and another carrier were unaware of any measures having been taken by the Member States.
- 8.30 **Airports and airport associations:** BAA and Manchester Airport described the actions taken in the UK in establishing ACL, although BAA suggested that there remained the potential for it to be influenced by the airlines, as these comprised the entire membership of its board. Oslo Airport explained the model adopted in Norway, where the ownership of the coordinator is divided equally between airlines and airports. In Switzerland the split was described by Zurich Airport as being three-way, with the coordinators’ members drawn from airports, airlines and the state. Two other airport managing bodies were satisfied with the independence of their coordinators.
- 8.31 **Slot coordinators:** ACD, Airport Coordination Norway and Brussels Slot Coordination made reference to the successful arrangements adopted in their own states. Both EUACA and ACD highlighted variations between states, with EUACA specifically citing independence from the Member State as being an issue in some cases.
- 8.32 **Member States:** All stakeholders seemed satisfied with their arrangements introduced in their States, some citing the specific laws which have been enacted to require the independence of their coordinators. Some examples of financing models were given, including equal division between carriers and airports. The UK CAA and DfT added that UK regulations require the managing body of airports to be satisfied that the

coordinator functions separately from any interested party. DGAC Spain stated that the Spanish coordinator acts independently despite being part of AENA, and that no complaints had been received from stakeholders.

- 8.33 **Other:** The transport directorate of the government of the Canary Islands suggested that the ownership of the Spanish coordinator by AENA was an anomaly which had not been (and should be) addressed, given that the organisation was also the airport operator. Norton Rose highlighted the variance in approaches adopted by the Member States, and suggested that in some cases (the example of France was cited) more progress perhaps needed to be made. This was reflected by the French Competition Authority, which highlighted the positive changes which had been made to the structure of COHOR, but suggested that the strong representation of Air France on its Board of Directors may be an issue. Danish Aviation believed that ‘a number of Member States’ had established independent and neutral coordinators, but that funding mechanisms were perhaps more variable.

Question 8.2: What would be the advantages and disadvantages of amending the Regulation to specify that the coordinator should be organisationally, as well as functionally, separate from interested parties such as airport management companies, and not to have any obligations to report back to them? What administrative costs would it generate? How could the independence of the coordinators be improved otherwise? Please suggest solutions.

- 8.34 **Airline and airline associations:** Most respondents emphasised the need for coordinators to be independent from other organisations and the benefits this brings, and no stakeholders highlighted disadvantages arising from increased independence. There was however disagreement regarding the most effective way to achieve this. Many respondents suggested that independence requirements were already sufficiently covered by the Regulation (or that the issues were not sufficiently serious) and that no further legislative changes were needed. Many of these respondents suggested that where there were problems these would be best addressed through better enforcement of the existing Regulation. No carriers expressed clear support for legislative changes, although easyJet would support ‘additional measures’ to ensure the independence of the coordinators. Other stakeholders offered no suggestions, or gave examples of independent structures, but not how these models could or should be enforced. Few respondents made reference to potential administrative costs, the exceptions being NetJets, which asserted that stakeholders should not have to bear the costs of maintaining independence; and Condor, which argued that although there were administrative costs, these were worth it.

- 8.35 **Airports and airport associations:** Similar views were shared by several respondents, namely BAA, Fraport, the German Airports Association and Schiphol Airport. Schiphol and BAA highlighted the need for funding to be balanced between interested parties, and all suggested that coordinators should be obliged to produce yearly reports. Schiphol Airport, BAA and the German Airports Association also suggested that coordinators should be monitored against performance or service level agreements. Manchester Airport was the only respondent to explicitly suggest that the Regulation should be strengthened to clarify the requirements for independence. Zurich Airport believed that the only way to ensure complete independence would be

for the coordinator to become a state organisation funded from general taxation.

- 8.36 **Slot coordinators:** EUACA echoed the views expressed by some of the airports, suggesting mandatory annual reports to Member States. Other coordinators express varying opinions: for example ACD expressed satisfaction with the current arrangements in Denmark, and Brussels Slot Coordination stated that independence of the coordinator can be achieved with the current Regulation. Only SCA referred to administrative costs, predicting that these could increase by 25% (given that SCA is already independent this may refer to costs already borne in Austria, however this is not stated).
- 8.37 **Member States:** One Member State expressed concern that separation of the coordinator would not increase the transparency of the coordinators' activities. Both the Belgian CAA and the UK CAA / DfT emphasised that the Regulation already requires the coordinators to be independent bodies, but that there was an issue of incomplete implementation and enforcement. Similarly, DGAC Spain, DGAC France, the Swedish Transport Agency and another Member State stated that their current structures were already compliant with the Regulation, with two adding that the Regulation should not be amended in this regard. The UK suggested that it may be beneficial if there was a greater onus on the coordinator to demonstrate its independence. The Belgian CAA suggested that the means for financial independence should be determined at the national level, a view echoed by Spain which believed that all coordinators do not have to share the same organisational model. France stated that it would not be opposed to a revision of the Regulation, provided that the means of implementation are homogenised and binding for all Member States. The Hellenic CAA stated only that the enhancement of coordinators' independence would be beneficial for the slot allocation process. The Polish Civil Aviation Office and another national governmental organisation suggested that independence should not increase costs, with the Swedish Transport Agency also stating that independence can be achieved without major cost.
- 8.38 **Other:** The French Competition Authority supported this proposal, and suggested that it follow the regulatory model enforced on the rail sector. DCCA was the only respondent to cite administrative cost impacts, but suggested that these would be outweighed by the advantages generated by greater independence. Norton Rose stressed that better monitoring of Member States was the most efficient means of ensuring the independence of the coordinators. In contrast, the Aviation Environment Federation asserted the most effective approach as being complete separation of what is a public interest service from private interests, i.e. the users of the coordination service. The Gatwick Area Conservation Campaign proposed that the costs of coordination should be recovered from operators, with any surplus given to local environmental organisations. Danish Aviation suggest that the issues of independence and transparency are already reflected in the Regulation, but there could be a benefit in identifying and documenting 'best practice' examples for replication elsewhere.

Option B1.2: Keeping separate accounts

Question 9: What would be the advantages and disadvantages of amending the Regulation to specify that the coordinator must keep accounts and budgets separate from any party having an interest in its activities, and should not be

financed solely by a single interested party? What, if any, administrative costs would this generate?

- 8.39 **Airline and airline associations:** The majority of respondents agreed that coordinators should keep separate accounts and budgets, but it was not agreed that the Regulation should be amended to require this. ERA and IACA and an airline highlighted that the notion of separate accounts is inherent to the independence already specified by the existing Regulation, so further revisions are unnecessary provided implementation is effective. Whilst agreeing with the principle of cost separation, a number of carriers did not state how this should be achieved, and ELFAA, Ryanair and another carrier asserted that there were no issues which needed to be addressed by regulatory changes. Four carriers highlighted the difficulties in sharing coordination costs between airlines and airports, as airports would probably pass the costs onto airlines through their charges anyway. Again, only a few respondents referred to administrative costs – examples are Condor and NetJets, which suggested that the value of ensuring independence would in any case far exceed that of any administrative costs. One carrier asserted that any change to the Regulation would result in more bureaucracy and therefore more costs for airlines, with another indicating that home carriers would be most affected by this.
- 8.40 **Airports and airport associations:** ACI Europe and BAA emphasised that coordinators should not be involved in slot trades in any way, and both added (along with Fraport) that Article 4.2 already gives clear guidance regarding the independence of the coordinator. Oslo Airport highlighted that no changes were necessary in Norway as a compliant system was already in place. Only Manchester and Zurich Airports made reference to administrative costs, both suggesting that these should be small.
- 8.41 **Slot coordinators:** ACD and Brussels Slot Coordination emphasised the need for charges to be shared across all operators via a common system. SCA also suggested that airlines could request better service quality from the coordinator if they were paying for the service. EUACA referred to the checklist in the IATA World Scheduling Guidelines which sets out best and poor practices regarding coordinator independence.
- 8.42 **Member States:** Three stakeholders were generally supportive of this amendment and four were opposed. A solution proposed by ENAC to achieve this was having the coordinator funded entirely by the Member State. Despite suggesting that the proposed amendment would guarantee the independence of the coordinator, the Belgian CAA highlighted the independence of its own coordinator and suggested that this should apply for all. The UK and France suggested that the Regulation already provided sufficient clarity, and that the focus should be on enforcement. Spain also argued that an amendment would not guarantee the independence of the coordinator. The Polish Civil Aviation Office and another two stakeholders predicted that there should generally not be an increase in administrative costs, whereas Spain believed that a new model would increase costs.
- 8.43 **Other:** Five stakeholders prepared detailed responses to this question. Only Norton Rose expressed an opinion on whether the Regulation should be amended to require separate accounts – suggesting that this is already specified by the Regulation and that

the desired outcome could be best achieved by better monitoring by Member States. An alternative suggested by the French Competition Authority was the establishment of an independent regulatory authority to supervise the funding of coordinators, which could also have oversee the rail industry. No reference was made to the potential costs generated, although this was highlighted by two of the remaining three respondents, both believing that this would be marginal. The third (DCCA) believed that the transparency generated was more important than the costs of keeping separate accounts.

Option B1.3: Limits on adjacent activities

Question 10: What would be the advantages and disadvantages of amending the Regulation to limit the types of adjacent activities that a coordinator may develop (such as consultancy services), in order to avoid any possible influence on their coordination activity? What, if any, administrative costs would this generate?

- 8.44 **Airline and airline associations:** Stakeholders provided a range of responses to this question. Although many were in support of limiting adjacent activities, it was generally not clear how this should be achieved. The responses were divided fairly equally between those who believed that all activities beyond the core role set out in the Regulation could create a conflict of interest and should be limited or prohibited entirely, those who believed that the key issue was that coordinators should not be undertaking any adjacent activities which create a potential conflict of interest (and that permitted activities could even be beneficial in providing funding or disseminating good practice), and others suggesting that any potential issues which have arisen were not sufficiently widespread to warrant re-drafting of the Regulation, and should be dealt with on a case-by-case basis. Two carriers expressed clear support for consultancy services being provided by coordinators, and believed that these could reduce costs and accelerate the uptake of best practice in slot coordination. Administrative costs were again referred to only infrequently: NetJets suggested that these would be insignificant, and two carriers believed that some compensation of consultancy earnings could be necessary, although this should be absorbed by decreased costs due to the downsizing of the coordinator made possible.
- 8.45 **Airports and airport associations:** Five airports and associations believed that adjacent market activities should not be allowed. Fraport and the German Airports Association added that slot coordination is an administrative process, leaving no room for adjacent business activities. BAA also suggested that, where resources allow and with agreement, it may be permissible for coordinators to offer consultancy in other States. Of the remaining respondents to the question, Manchester Airport was not supportive of any widening of the types of outside activities and consultancy allowed (perhaps suggesting that it is satisfied with ACL's current practices), and in particular not any consultancy undertaken to the benefit of only one party, which could cause a possible conflict of interest in the future. Zurich Airport took a similarly balanced view, suggesting that the Regulation should only address activities which impair the independence of the coordinator. The airport was the only respondent to comment on administrative costs, predicting that none would be generated, but that loss of revenue would occur.
- 8.46 **Slot coordinators:** Coordinators provided different responses to this question.

COHOR suggested that coordinators should focus on their public service function rather than seeking alternative revenues which could result in conflicts of interest. ACD suggested that the coordinator may offer additional services so long as these do not question its independence. Brussels Slot Coordination highlighted the problem as being that it is not known at present what is and is not authorised, presumably requesting some form of clarification. SCA saw no reason to limit commercial activities which would help finance coordination, and Airport Coordination Norway suggested that there could be issues if adjacent activities are connected to the airports and airlines which form part of the coordination process. EUACA did not provide a view on this question.

8.47 **Member States:** Most Member States stated that it was not adjacent activities in general which were an issue, but rather any activities which could impede core activities or create a conflict of interest. Only one (Italy) stated explicitly that the Regulation should be changed in this regard. The Polish Civil Aviation Office did not state its own opinion, but compared the advantage of eliminating potential reasons for unequal treatment of carriers by coordinators against the disadvantage of the consequent reduction in ancillary revenues and which would have to be compensated for by increases in the fees paid by carriers and airports. The UK believed that in seeking additional opportunities in the UK and other countries, the coordinator ACL was demonstrating that its focus was on its expertise as a slot coordinator independent from any airline or national interests.

8.48 **Other:** Both DCCA and Norton Rose highlighted that some adjacent activities (for example data storage for airports) naturally connect to the coordinators' core functions; with Norton Rose also highlighting the additional funding generated from adjacent activities. Danish Aviation and the French Competition Authority suggested that coordinators should focus on their prime functions, with Danish Aviation adding that additional activities are likely to jeopardise independence over time. Only DCCA made an explicit reference to administrative costs, stressing that the advantages of eliminating conflicting activities far outweigh these.

Option B2: Improve transparency of schedule data

Question 11.1: What measures have the Member States taken to ensure that schedule data is fully transparent to interested parties?

8.49 **Airline and airline associations:** Several respondents highlighted the distinction between slot information, which coordinators should provide; and schedule information, which they believed that coordinators could not, as the route is not part of the definition of a slot and the coordinator only has local information. Condor did however refer to schedule data in its response, stating that this was only available in Germany and the UK. Only six stakeholders provided a direct response to this question, stating that they were unaware of any such measures having been undertaken by Member States. Many carriers highlighted in the differences in the level and standard of information provided in different States, although most added that this information was still sufficient to plan their schedules. ELFAA gave the example of Italy, where data provision was not believed to be transparent; and British Airways cited the UK as a 'best practice' example. Ten were generally satisfied (although three were carriers operating only at French, UK and German airports), with ERA adding

that none of its members had highlighted issues in this area and that therefore amendment to the Regulation should not be required. Despite highlighting differences in the standard of information provided by coordinators IATA also shared this view. Of the airlines which were satisfied, a distinction was sometimes made between coordinators which provided information automatically and those from which it had to be requested from, although this was not believed to pose a problem. NetJets and the business aviation association shareholder and operations manager were the only respondents which believed that slot data was not transparent, the latter suggesting that slot allocation at Vienna was completely opaque.

- 8.50 **Airports and airport associations:** The Schiphol Group identified the only measure as being the transposing of the Regulation into national law. ACI and BAA believed that the requirements already included in the Regulation seemed sufficient, and Manchester Airport added that formal government action has not been necessary in the UK as the coordinator was already making such information available. Oslo Airport stated that no measures had been taken beyond the Regulation itself, and that the required information was easily obtainable. Similarly Zurich Airport referred only to the helpful website set up by the Swiss coordinator, and another airport managing body stated that it was not aware of any complaints regarding transparency.
- 8.51 **Slot coordinators:** All coordinators providing responses to the question were satisfied with the current level of information provided. ACD highlighted the transparency of the www.online-coordination.com website, and Brussels Slot Coordination and Airport Coordination Norway stated that measures beyond the Regulation itself have not been required. EUACA stated that most of the required measures have already been taken by coordinators and they had developed a combined database.
- 8.52 **Member States:** Most Member States seemed satisfied with the transparency of schedule data, which was stated as being available to interested parties on request, via online tools, the EUACA website, Informative Circulars or slot coordination committees. Despite being satisfied with ACL, the UK CAA / DfT believed that this part of the Regulation needs to be properly enforced so as to be applied uniformly across Europe. Only Sweden and Italy identified specific actions which had been taken – Sweden prompted the coordinator to set up an online coordination service, and Italy took action to ensure that the slot waiting list was made available to members of the Airport Coordination Committee on request.
- 8.53 **Other:** The government of the Canary Islands expressed dissatisfaction with the current situation and urged that data should be required to be made available to a wider range of stakeholders. Otherwise, only PANSAs provided a response, highlighting that the current Regulation does not require schedule data to be transparent to every interested party.

Question 11.2: What would be the advantages and disadvantages of amending the Regulation to require coordinators to make historic schedule data available, for example through placing it in an online database? What, if any, administrative costs would this generate?

- 8.54 **Airline and airline associations:** The most common response was that no difficulties had been experienced with regard to historic data, and most of these carriers could

therefore not appreciate the need for any such amendment to the Regulation (although one did see advantages in having a file available at larger airports on a city pair basis). ERA also added that an online database should be developed through best practice guidelines rather than through an amendment to the Regulation. Six respondents expressed support for an amendment requiring historic data to be made available online, although in two cases it was added that the Regulation should not be amended solely for this purpose. British Airways suggested that the provision of historic data could be improved (ideally by universal provision of an all-carrier historic file), but did not state whether this should be required by the Regulation. However, both ELFAA and Ryanair believed that historic data was less important than current 'live' information; ELFAA adding that this should ideally be made available online in a standard format by some means other than amending the Regulation. AEA and one other respondent suggested that the Commission should provide oversight within the context of the Regulation. Some airlines said that this proposal would ensure the transparency of the allocation process; another stated that smaller airlines would benefit as they tend not to subscribe to schedule data due to its cost. Some carriers believed that the costs involved would be minimal, with NetJets adding that these should in any case be borne by the coordinators or Member States themselves. AEA and five airlines suggested that a consolidated online database would be a potentially unnecessary additional cost, with a possible alternative being allowing access to the individual coordinators' databases. Condor predicted increased costs for all States, with the benefits confined only to the States with the most congested airports.

8.55 **Airports and airport associations:** BAA, ACI Europe, the German Airports Association and another airport group were supportive of a consolidated database, and also suggested that the airport should be included in communications between carriers and the coordinator, with the Regulation providing for standardised replies to carriers' slot requests. Fraport was satisfied with the Regulation's current requirements, and although an online database would be useful it did not believe it to be essential. Oslo Airport suggested that there was no need for historic data preceding the last three seasons. Gatwick, Manchester and Schiphol airports suggested that the increased transparency generated would foster a more efficient allocation and use of slots and would allow for more efficient decision-making by airports. In terms of costs, Lodz Airport predicted increases in ticket prices, whereas Zurich predicted marginal cost impacts.

8.56 **Slot coordinators:** EUACA supported provision of data by coordinators to be mandated by an addition to the Regulation, although expressed concern that the costs would be beyond the coordinators' present financial means. This concern was also expressed by COHOR, which added that any such requirement should be accompanied by a suitable financing method. ACD suggested that substantial periods of historic data were largely uninteresting and could unnecessarily take up data storage space. Brussels Slot Coordination suggested that if the coordinator uses software compliant with IATA WSG there would be no additional cost. SCA also agreed that there would be no additional cost, whereas Airport Coordination Norway indicated that making historic data available over longer periods than is necessary to determine historic data would increase its cost and workload.

8.57 **Member States:** Where respondents cited potential benefits these were generally

related to the greater degree of transparency which the proposal would generate, although the benefit identified by DGAC France was that it would ensure a homogenous level of information is available across Europe. The only perceived benefits related to the associated labour and technological costs, although these were not felt to be significant – for example the UK stated that costs should be low because the information should already be readily available (and that in any case the costs would be outweighed by the benefits), and Spain indicated that the coordinator had estimated the costs of an online database to be very small. The Hellenic CAA stated that the cost burden would fall on those coordination agencies without existing online functions. Again, the question was not currently relevant to Poland, but its Civil Aviation Office anticipated benefits if coordination were introduced at its airports in the future. The only respondents to be unfavourable to the proposal were ENAC (which suggested that this could restrict the autonomy of the coordinators) and another Member State (which believed that the benefits depended on the amount of historic data which needed to be made available).

- 8.58 **Other:** The Airport Regions Conference suggested that a transparent record of current and historic slots would reduce the risks of misuse or abuse. The EEA suggested that airlines already receive sufficient transparency regarding slot data, and that more information on parameters and local rules would allow a better understanding of why certain requested slots were unavailable. Conversely, Norton Rose suggested that there was a lack of transparency, and that they would be strongly in favour of an online database. Other stakeholders focused primarily on the advantages and disadvantages, namely transparency and potential increases in administrative time and costs (although DCCA added that the advantages exceed the costs); and coordinators having to give explanations of decisions made some time ago. A citizen predicted marginal costs, as the information was available and already budgeted if published through the performance scheme of the SES.

Option B3: Better define and ensure the correct use of slots

Option B3.1: Slot reservation fees

Question 12.1: What would be the advantages and disadvantages of amending the Regulation to introduce slot reservation fees?

- 8.59 **Airline and airline associations:** No respondents believed non-use was sufficiently widespread to necessitate an amendment the Regulation introducing slot reservation fees, although Malaysia Airlines considered the proposal to be somewhat more acceptable if the fee was refundable, and easyJet asserted that any surplus should find coordination rather than go to any other interested party. Consequently, almost none suggested advantages, although three suggested that this would reduce abuse, with Condor adding that the result may be a slightly higher return of the less attractive slots at the SRD. For example, ELFAA suggested that there is already little incentive for carriers to hold slots unnecessarily as others would respond by restricting the number of slots they offered, and another carrier suggested that the IATA guidelines already offer a sufficiently robust framework. British Airways cited the sanction scheme already in place at UK airports, and suggested a potential alternative as being giving offenders lower priority at EU Level 3 airports. NetJets suggested increasing the minimum usage threshold to 95%.

- 8.60 The most frequently cited disadvantages of slot reservation fees were that these would also penalise good behaviour by the majority of airlines, create additional costs (with some adding that revenue risk would be even more heavily weighted from the airports to carriers), and would create additional administrative complexity. Other disadvantages raised were that the fees would reduce flexibility, have a disproportionate impact on smaller carriers, encourage airports to become coordinated as a revenue-raising measure; and could be unlawful and ultimately ineffective. Additional costs were predicted to arise from the fee itself and from forced operation of services which could otherwise have been cancelled under the 80/20 allowance. ELFAA also stated that it had little faith in the concept of ‘revenue neutral’ charges. However, several respondents did agree that penalties should be administered to carriers which intentionally and repeatedly returned slots late.
- 8.61 **Airports and airport associations:** Most airports expressed some degree of support for the proposal. ACI, BAA and Fraport stated that this would not generate additional revenue for airports, with BAA and Fraport adding that because airport infrastructure would be better utilised costs could be distributed more fairly. Fraport also added that this would be the best way of solving the problem of insufficient slot usage. Manchester also expressed support (provided the revenue was not appropriated by government), Gatwick and Zurich believed that fees would be beneficial in promoting optimal use of slots, and Oslo and Zurich believed that this would reduce the risk of slots being reserved to block competition. One airport operator suggested a graduated penalty for late return, which would impose higher penalties for the latest returns. Schiphol did not express an opinion, but suggested that such fees may already be applied and should be a national competency, or be dealt with under the Airport Charges Directive.
- 8.62 **Slot coordinators:** EUACA suggested that consideration should be given to some form of dissuasive measure, either a reservation fee or possibly the coordinator not taking into account requests from an offending carrier for a period of time. None of the individual coordinators expressed support for the proposal due to the additional costs, administrative burden and practical issues entailed. Brussels Slot Coordination also cited a conflict with the requirement of coordinator independence, as the coordinator and airport managing body accounting systems would become intertwined.
- 8.63 **Member States:** Three States (Belgium, France, and Sweden) were opposed to reservation fees and four expressed some degree of support. Of these latter four, Greece and Spain focused on the potential advantages, including reductions in late handback, more efficient use of capacity, an increase in the number of slots available in the pool and a new source of revenue for coordinators. The UK stated that it could be supportive if it were demonstrated that there was a significant problem which needed to be addressed. Disadvantages cited were the additional complexity and costs entailed, the potential compromising of the functional separation of coordinator and airport, and the potential operation of unviable flights just to avoid losing the fee. A further common justification for opposition to the proposal was that the problem of late handback was not believed to be sufficiently widespread (France highlighted the already high utilisation rates at its airports).

- 8.64 **Other:** The Airport Regions Conference suggested that fees may be useful if set sufficiently high in order to prevent airlines reserving slots to prevent competition. Otherwise, no respondents were supportive of slot reservation fees. Both EEA and Norton Rose agreed that the problem was not severe, and that introducing fees would penalise the good behaviour of most carriers. Danish Aviation rejected the proposal on the grounds of complexity, and DCCA highlighted the problems in involving airports in the coordination process, also citing reduced transparency and increased complexity and cost. Finally, the Gatwick Area Conservation Campaign and an individual citizen suggested slot auctions as being the most effective way of encouraging efficient slot use.

Question 12.2: Please specify any impacts this would have on (a) the proportion of slots for which services would be scheduled; (b) the proportion of slots for which services had been scheduled that would actually be used; (c) the mix of traffic; (d) administrative costs; (e) competition; and (f) any other impacts.

- 8.65 **Airline and airline associations:** ERA was the only respondent which explicitly forecast no impacts in any of these areas. British Airways predicted that the proposal would not lead to an increase in the uptake of slots, a view supported by another European carrier which predicted little or no impacts in this area. Another non-EU carrier predicted that 100% of unused slots would be returned before the deadline. NetJets suggested that reservation fees would be disadvantageous to it and other business aviation carriers, as it does not operate a routine programme and would therefore find it more difficult to compete. As indicated in the responses to 12.1 above, a frequently cited disadvantage of the proposal was that it would have no or limited impact on the proportion of slots actually used, although as also indicated above three carriers did acknowledge some positive impacts on slot utilisation. NetJets predicted the reverse – suggesting that the increased financial burden from reservation fees could have a negative effect on the use of slots. One non-EU carrier predicted that if more slots are returned mid-season this could allow operation of more non-scheduled flights. A business aviation association shareholder and flight operations manager predicted that market entry for new entrants would not be possible by means of fees or auctions. Another EU carrier predicted little or no impact in this area.
- 8.66 Administrative costs were the category of impact highlighted by most respondents, although no estimates of the magnitude of these costs were given. Several respondents highlighted negative competition impacts in terms of the disproportionate impact of the proposal on smaller carriers. One non-EU carrier predicted impacts in the form of charters and extra services. IATA emphasised that, were such a scheme applied only to European airlines, they would be placed at a significant disadvantage (and application to all airlines operating into Europe would set a difficult precedent for similar schemes worldwide). A number of carriers explicitly stated that there would be little or no impact on competition. Other impacts are largely covered in the responses to 12.1 above.
- 8.67 **Airports and airport associations:** Zurich predicted fewer slots being blocked for scheduled services. In its response the German Airports Association highlighted the positive impact of a similar instrument at Düsseldorf. As stated in 18.1, most airports believed that reservation fees were the most effective means of improving slot

utilisation. Zurich predicted no impact on the mix of traffic, an increase in the per-slot administrative cost (as fewer would be requested) and a 'better competitive environment'. Another airport managing body predicted improved competition. Despite welcoming the potential reductions in overbidding, Manchester Airport suggested that airport traffic forecasting could become more difficult, as airlines would be discouraged from making early bids for slots. Finally, Zurich anticipated a more effective financing model.

8.68 **Slot coordinators:** The only substantial response was from EUACA, which indicated that dissuasive measures such as this would improve the use of scarce airport capacity. Airport Coordination Norway referred to its response to 12.1, which is described above.

8.69 **Member States:** Four Member States provided responses to this question. One forecast an increase in utilisation, but increases in costs and consequent reductions in the competitiveness of EU carriers in comparison with others based elsewhere. Spain predicted a reduction in the difference between slots requested and operated, suggesting per-carrier reduction in the proportion of slots for which services would be scheduled, accompanied by an increase in utilisation. Some administrative costs were anticipated and it was believed that there would be some unknown competitive impact. DGAC France believed that, given their already high levels of slot utilisation, the effect on utilisation would not be significant. It also stated that the management costs for airports would only be acceptable if the financial gains from the fees were at least equivalent, and that the effect on competition could be negative, as carriers with limited funds might be deterred from operating at coordinated airports. Finally, ENAC believed that the proposal could improve slot mobility, which could improve the utilisation of airport capacity and even improve new carriers' chances of gaining slots.

8.70 **Other:** DCCA highlighted competitive impacts in terms of more slots being available at congested airports. Gatwick Airport discussed the impacts only of its auction proposal, which is not relevant here.

Option B3.2: Penalties for late handback of slots

Question 13.1: What would be the advantages and disadvantages of amending the Regulation to introduce penalties for late handback of slots? How should late hand-back be defined? Are there any alternative ways to incentivise on-time use of slots which we should consider? Please specify.

8.71 **Airline and airline associations:** Most carriers supported some form of penalty for late handback, but with allowances for extenuating circumstances and in some cases only where offences are repeated and intentional. One carrier also suggested that penalties should only apply at peak times or at the most congested airports, and one non-EU carrier proposed that sanctions should only be levied where such action has prevented another carrier from obtaining a slot. Some (for example ERA, IATA, British Airways and Thomson) stated that the Regulation already gives increased powers to Member States or via local rules to impose sanctions and should not therefore be amended specifically for this purpose, particularly as the problem is not widespread and impacts vary between airports. Others (for example Cathay Pacific, Condor and Ryanair) were more strongly opposed and did not consider that there was

any need to amend the Regulation in this regard.

- 8.72 Where stated, most carriers understood late handback as being after the Slot Return Deadlines. Various exceptions were proposed: AEA and one other carrier suggested that slots not forming part of a series should be exempt, easyJet proposed that the definition should not apply to recycled slots and those only partly operated at the start of the season, and NetJets stated that programmed slots handed back 24 hours before operation should not be considered as late handbacks. Another EU carrier suggested that handback of slots two months before the start of the season should be allowed without penalty in future. easyJet and the business aviation association shareholders considered the most effective approach as being a stronger focus on giving offending carriers lower priority for future slots. easyJet suggested that this stronger focus can be achieved through less ambiguous wording in the IATA WSG and the Regulation itself, and highlights a recently approved local rule at Gatwick which specifies this. An alternative proposed by NetJets is an increase in the ‘use it or lose it rule’ to 95% to liberate more slots.
- 8.73 **Airports and airport associations:** ACI Europe, the German Airport Association, BAA, Fraport and Gatwick Airport expressed clear support for widespread adoption of a sanction scheme, possibly similar to that in operation in Spain and the UK. Manchester Airport also highlighted the effectiveness of the UK system, and suggested defining late handback as being 4-6 weeks before the start of the season. Although not opposed to fees and sanctions in general, Zurich Airport believed that option B3.1 would be more effective, identifying difficulties in defining late handback and administrative costs associated with invoicing penalties. Schiphol did not foresee such a scheme to have any benefit, and suggested a more appropriate solution as being a ‘name and shame’ policy, complemented with offenders being given lower priority for slot requests the following season. The only other respondent not supportive of penalties was Oslo Airport, which suggested that problems were not sufficiently severe locally to warrant a change.
- 8.74 **Slot coordinators:** EUACA reiterated its response to Option B3.1, in which it urged consideration of dissuasive measures to address overbidding and late handback. ACD considered that sanctions should not be necessary, but added that the Regulation could include a fixed sanction which coordinators could levy for repeat offences. This was supported by Brussels Slot Coordination, which argued that intentional offences should be heavily penalised. SCA and Airport Coordination Norway stated only that the Slot Return Deadline is the relevant date.
- 8.75 **Member States:** Most States provided cautious responses to this proposal, tempered with additional caveats and considerations. Belgium believed that penalties should apply only for repeated or intentional handbacks (and that this should be defined), the UK only if were shown that this was a proportionate and practical response to a significant problem, Spain that the procedure should be applied in a transparent and uniform manner, France that it should only apply at the most congested airports and should be lower for handbacks closer to the return deadline, and Italy that carrier liability would have to be excluded in certain cases. Anticipated benefits comprised ease of implementation in comparison with reservation fees, better adherence to handback dates and increases in the number of pool slots allowing more ad-hoc or new

entrant services. Potential disadvantages were that some carriers might be deterred from introducing new services, or that carriers might lodge appeals which could delay the allocation process. All of the stakeholders which referred to the definition of late handback agreed that this should be aligned with the slot return deadline set out in the IATA WSG. The Swedish Transport Agency highlighted the approach adopted in Sweden, where the coordinator compares slot allocation against the airline reservation system. If the two do not match a warning is sent to the carrier, and if a slot is subsequently returned late this is addressed in the coordination committee. The UK highlighted the effectiveness of its Misuse of Slots Enforcement Code, which may provide an alternative approach for adoption elsewhere.

- 8.76 **Other:** The Airport Regions Conference stated that sanctions would be effective if sufficiently high to discourage carriers from handling slots back late in order to prevent competition. Danish Aviation stated that deliberate misuse could be penalised, although this would introduce the problem of separating deliberate from unintended infringements. EEA stated simply that it was unfair to penalise carriers for unexpected business conditions beyond their control, and Norton Rose suggested that the solution was better monitoring and implementation at the airport level, and DCCA suggested that late handback has not been a major problem in Denmark, but could be solved effectively elsewhere at the local level. Finally, the Gatwick Area Conservation Campaign did not support such penalties because they might encourage empty flights, and an individual citizen argued that the proposal was too complex, and the introduction of auctions would provide the necessary incentives.

Question 13.2: Please specify any impacts this would have on (a) the proportion of slots for which services would be scheduled; (b) the proportion of slots for which services had been scheduled that would actually be used; (c) the mix of traffic; (d) administrative costs; (e) competition; and (f) any other impacts.

- 8.77 **Airline and airline associations:** Few carriers submitted detailed responses to this question, particularly those which expressed opposition in 13.1. Only NetJets and a non-EU carrier discussed impacts in all areas, as outlined in the following text. One non-EU carrier suggested that the airlines would only apply for the slots they really required, and NetJets predicted that the proposal would lead to more efficiency in scheduling. IACA anticipated a small impact, and ERA and six carriers explicitly predicted very little or no impacts. As indicated above a number of respondents did not see any justification for this proposal and did not therefore predict any noticeable impact on slot utilisation. NetJets and the non-EU carrier predicted improvements in slot utilisation, potentially reducing the workload of the coordinators. IACA anticipated only a small impact on slot utilisation. Both NetJets and the non-EU carrier anticipated impacts on the mix of traffic. The non-EU carrier predicted that this would arise from an increase in availability of slots for ad-hoc operations, and NetJets suggested that the availability of penalties would in itself enable a wider mix of traffic. ERA, IACA and six carriers explicitly predicted very little or no impacts. The non-EU carrier and two EU carriers cited increased administrative costs (one of the EU carriers forecast the administrative burden to be considerable), and NetJets suggested that these should be borne by the coordinators. ERA anticipated no administrative cost impacts. Both NetJets and easyJet predicted that the proposal would increase competition at slot constrained airports by ensuring that slot usage was maximised and abuse by dominant carriers would be reduced (NetJets suggested that the benefits would

be enhance further if this was combined with an amendment of the 80/20 rule to 95/5). This was supported by a non-EU carrier, which suggested that if the proposal resulted in more slots becoming available there would be increased competition. ERA and six carriers explicitly predicted very little or no impacts. Other impacts are discussed in 13.1 above.

- 8.78 **Airports and airport associations:** This question was again not answered in detail by many stakeholders. BAA forecast greater efficiency in slot use, and that a greater proportion of slots could be reallocated if returned in time. It added that the SRD could also be moved forward to allow enough time for sufficient reallocation. The German Airports Association predicted that the proportion of slots returned late or not used at all may drop significantly. Manchester Airport cited impacts on competition, predicting that a greater proportion of slots could be reused by other airlines and exclusionary behaviour would be discouraged. Again, respondents which did not recognise the need for such a proposal did not generally identify any impacts.
- 8.79 **Slot coordinators:** The slot coordinators did not respond to this question.
- 8.80 **Member States:** One Member State cautiously predicted longer-term increases in the utilisation of slots and DGAC France and DGAC Spain predicted reductions in late handbacks and overbidding. DGAC France added that this impact would be small, and that there would be no impact on the number of flights scheduled. Other impacts are reported in 13.1 above.
- 8.81 **Other:** The only other respondent to forecast impacts was DCCA, which suggested that the competitive impact may be that more slots would become available at congested airports. The Gatwick Area Conservation Campaign referred again to the impacts of its auction proposal.

Option B3.3: Strengthen powers of coordinators

Question 14.1: To what extent have slot coordinators used the power to withdraw slots from air carriers that repeatedly and intentionally operate air services outside the allocated slot times, and how effective has this been?

- 8.82 **Airline and airline associations:** A number of carriers failed to respond, or provided responses which did not address the question. Of those which did respond, most were unaware of any instances where the coordinators had withdrawn slots from carriers which had repeatedly operated outside their slot times, and could not therefore judge this to be effective. British Airways described the initiatives implemented in the UK and other States, but suggested that despite of this there was little evidence of slots having been withdrawn, although both British Airways and another EU carrier indicated that the threat of this had been effective. FNAM described the French sanction scheme, adding that the power of withdrawal was exercised sparingly and in very exceptional cases; and Condor described the clearly defined escalation model adopted by the German coordinator, again adding that slot were withdrawn only rarely. Cathay Pacific believed that monitoring of off-slot operations was widespread, but did not comment on whether slots were being withdrawn. Three other carriers agreed that coordinators were exercising this power, one carrier adding that most common response was the withdrawal of historic rights for the next season. One of

these carriers suggested that where such actions have been taken results are possible and abuse is reduced. Malaysia Airlines suggested that such penalties are not very effective as there may be other economic and political pressures preventing the full implementation of any such ruling.

- 8.83 **Airports and airport associations:** Where a response was provided to this question, it was most commonly stated that the airport or association had no information. Manchester Airport believed that the UK sanctions scheme had been effective. Gatwick Airport indicated that no slots had been withdrawn by the coordinator at Gatwick for the reasons stated above, but added that some carriers had been fined under the sanction scheme for off-slot movements. Zurich Airport believed that the powers available to coordinators were generally effective for scheduled traffic, but that the powers with respect to general and business aviation were negligible.
- 8.84 **Slot coordinators:** Slot coordinators did not respond to this question.
- 8.85 **Member States:** The Belgian CAA suggested that these powers had been effectively used by the Belgian coordinator, but that it was not required to use them often. Similarly, ENAC and the Swedish Transport Agency stated that the option was rarely used in Italy or Sweden; and another Member State indicated that slots had been withdrawn by the coordinator but did not give an indication of frequency. It added that no change of the Regulation was needed in this regard, suggesting that existing powers were effective. France indicated that the French coordinator had not used the opportunity to withdraw slots, but had chosen instead to impose sanctions through the mechanism of the Administrative Committee of Civil Aviation (CAAC) (although no such sanctions have been applied since 2008). It added that the possibility of withdrawal as set out in Article 14.4 is in itself sufficiently dissuasive.
- 8.86 **Other:** DCCA stated that the option had not been used often due to their being a lack of such offences. The only other respondent – an individual citizen – stated only that the effects of such measures had been marginal so far.

Question 14.2: What would be the advantages and disadvantages of amending the Regulation to give the coordinators more powers to address late handback of slots? What additional such powers should coordinators be given?

- 8.87 **Airline and airline associations:** Many responses to this question reflected those submitted for question 13.1. Whilst many supported sanctions for genuine abuses, five carriers believed that such measures were best introduced at the Member State or local level through existing processes rather than requiring amendments to the Regulation. easyJet believed that airlines with an interest in acquiring future slots would not abuse slots at airports where they had a continued need in obtaining slots in future. One non-EU carrier expressed a concern that if national airlines acted as coordinators they could discriminate against competitor airlines; however, in reality, no airlines actually act as coordinators. ELFAA and fifteen airlines believed that there was no case for strengthening the powers of coordinators and no need to revise the Regulation. NetJets was one of the few carriers to comment on the nature of the additional powers, suggesting that these could include the ability to apply fines. A number of carriers emphasised that before any sanctions are imposed there must be clear evidence for abuse, and the airline should be allowed to explain the reasons for the perceived

offence.

- 8.88 **Airports and airport associations:** ACI Europe and BAA expressed support for effective incentives to encourage the efficient use of slots, but did not state how such incentives should be implemented, and added that they should only be considered as a last resort for cases of sustained intentional abuse. Manchester Airport reiterated the benefits anticipated under 13.2, i.e. that a greater proportion of slots could be reused by other carriers and exclusionary behaviour would be discouraged. Another airport managing body suggested that the existence of such powers could in itself provide a sufficient deterrent. In its response Gatwick Airport highlights its Local Rule 4 as providing a useful template. The only airport to express opposition was Zurich, which believed that additional powers were not necessary as it was off-slot operation rather than late handback which was the primary concern.
- 8.89 **Slot coordinators:** EUACA re-iterated its general support of dissuasive measures as set out in its response to question 12.1. Brussels Slot Coordination highlighted the benefits of the proposal, suggesting that it would improve the efficiency of the system if the coordinator was given the power to act without having to address the issue to the coordination committee or the State. SCA suggested a potential additional power as being the introduction of a reservation fee.
- 8.90 **Member States:** Belgium, France, Spain and the UK were generally supportive of this option, whereas Poland and Sweden and another Member State were not; the former two because existing powers were believed to be efficient, and the latter State because it believed that it was other organisations and not the coordinator which should impose penalties. The States which were in favour added certain conditions. Belgium and Spain emphasised the need for clear regulation and detailed guidance to avoid misinterpretation and to protect the coordinator in the event of complaints or mistakes. The UK urged careful consideration of the process and sanction and was concerned that powers should be used proportionately. Italy provided a detailed response to this question, but this related to a perceived proposal for increased powers to address off-slot operations. It argued that carriers could be financially harmed if denied the possibility of operating a given route, a large number of appeals could lead to uncertainty regarding the coordinators' handling of cases, any exclusion of carrier liability would need to be verified and a competent verification body established, and there may be practical difficulties in withdrawing slots from carriers whose membership fees finance the coordinators' activities.
- 8.91 **Other:** Norton Rose expected such a proposal to improve the efficiency of the system and reduce the scope for anti-competitive behaviour. DCCA was also generally supportive, but also stresses the need for objective criteria, and suggested involving national authorities to help ensure an objective system. Norton Rose did not believe that the Regulation should be amended, suggesting instead that guidelines on how to best address the problems of late handback would be useful in ensuring consistent application of the existing Regulation. The Gatwick Area Conservation Campaign again focused on auctions.

Question 14.3: Please specify any impacts this would have on (a) the proportion of slots for which services would be scheduled; (b) the proportion of slots for which services had been scheduled that would actually be used; (c) the mix of

traffic; (d) administrative costs; (e) competition; and (f) any other impacts.

- 8.92 **Airline and airline associations:** In common with similar previous questions, many stakeholders did not prepare a response, particularly those which were not supportive of change. One EU carrier believed that the proposal would have a negative impact on all aspects of slot coordination. Eight carriers specifically stated that there would be very little or no impact on the proportion of slots for which services would be scheduled. One of the non-EU carriers suggested that the proposal could be beneficial in freeing up slots for genuine operators; this was supported by NetJets which predicted an increase in scheduling efficiency and use of slots. IACA predicted only a small impact in this area, and one EU carrier suggested very little impact in this area. Eight respondents specifically cited very little impact on the mix of traffic, whereas another suggested that it would allow new carriers to operate. NetJets predicted a greater mix of traffic, as the increased efficiency could improve access to slots, provided allocation was clear and transparent. Two carriers predicted an increase in administrative costs, and NetJets stated that any increase in costs should not be borne by the airlines. easyJet, NetJets and one of the non-EU carriers predicted beneficial impacts on competition, NetJets adding that this would be generated by opening up the use of slots to a wider variety of aviation companies. Seven other carriers forecast very little or no effect. Other impacts are discussed in 14.2 above.
- 8.93 **Airports and airport associations:** Only Manchester Airports Group provided a relevant response, predicting that the effect of the proposal on its airports would be minimal.
- 8.94 **Slot coordinators:** EUCA re-iterated its general support of dissuasive measures as set out in 12.1.
- 8.95 **Member States:** Only DGAC France provided substantial comments additional to those already outlined in 14.2 above, stating that the impact would be dependent on the size of the penalty and the degree of lateness of the handback.
- 8.96 **Other:** Only DCCA provided a relevant response, which stated that the competitive impact may be a more efficient allocation of slots, hopefully leading to more becoming available at congested airports.

Option B4: Business and general aviation

Question 15.1: What approach have coordinators taken to allocating slots for business aviation operators?

- 8.97 **Airline and airline associations:** Almost all airlines and airline associations (scheduled and charter) agreed that business aviation is a growing segment of the aviation industry with equal rights to other operators and should therefore be permitted to gain historical rights, provided they meet the 80/20 rule. However, these airlines argued that business aviation should not be given any preferential treatment owing to the nature of its operations. Several stakeholders (including Ryanair and ELFAA) emphasized that business aviation should be restricted to use secondary or under-utilised airports to free up capacity and reduce inefficient movements at major airports. ELFAA also emphasised that it would be unfair for business aviation to be

allocated slots as a sector, and ELFAA and Air France argued that business aviation must meet the same criteria for slot allocation as other users.

- 8.98 In contrast, business aviation operators argued through EBAA that the current situation is unfair because operators never have the means to protect its historic usage of particular runway capacity at a given airport. NetJets also perceived inconsistencies between the regulators on whether or not it was entitled to historical rights to slots, with France granting these rights but the UK and Switzerland refusing them.
- 8.99 **Airports and airport associations:** Almost all airports and airport associations highlighted the fact that slot coordinators treat business aviation and general aviation in the same way as other operators, which does not suit these operators because by definition their operations are very variable. ACI Europe also pointed out that business aviation and general aviation operations do not necessarily need to take place at major airports therefore alternative locations can also be easily used.
- 8.100 **Slot coordinators:** Respondents stated that business and general aviation operators are granted slots in the same way as scheduled carriers. However, they acknowledged that few business operators would be able to successfully operate series of flights as required to obtain historic preference. EUACA pointed out that coordinators had taken different approaches when confronted with different situations, but did not provide specific examples. It also called for greater clarity of Art 2(f)(i) as it believes there are several interpretation of ‘historics’.
- 8.101 **Member States:** All Member States responded by stating that the business and general aviation operators could obtain and retain slots in the same manner as other carriers, but they declined to comment on the ease with which these operators can secure slots at the most congested airports. However, the UK stated that for Heathrow and Gatwick airports the coordinator also had to follow specific rules (Traffic Distribution Rules 1991) applying to business and general aviation during periods of peak congestion. DGAC France also noted that business and general aviation operators should have no issues with obtaining slots because all coordinated French airports are part of a double or triple airport networks where the smallest airport is naturally dedicated to business aviation. In the few instances where these dedicated platforms have become congested, local slot allocation rules have been enforced in order to preserve slots for the occasional users. The Swedish Transport Agency said that at Stockholm Bromma airport there is an hourly quota for business aviation slots.
- 8.102 **Other:** The other stakeholders did not respond to this question

Question 15.2: What would be the advantages and disadvantages of amending the Regulation to allow business/general aviation to obtain historic preference on the basis of the total number of business/general aviation flights operated? If implemented, how should this function? What, if any, administrative costs would this generate?

What are the advantages and disadvantages of reserving a number of slots per hour to business aviation operators?

- 8.103 **Airline and airline associations:** Almost all commercial airlines and airline

associations emphasized that business and general aviation operators should not be entitled to greater rights than scheduled carriers, as this would be an inefficient allocation of scarce capacity and would reduce punctuality, whilst these operators can choose to fly to a secondary airport in most cases. The European Business Aviation Association and NetJets argued that owing to their nature there is a need to reserve a fixed number of slots per hour for business and non-scheduled aviation at fully coordinated or schedule facilitated airports by creating a business aviation pool. The allocation would be based on historic usage, declared capacity and would be consistent with IATA scheduling conferences. Once a number of slots have been reserved, the rules of the modified Regulation would apply and a position of EBAA slot manager would be created to interact with coordinators and national authorities. NetJets also stated that it should be allowed to apply for historical rights by itself if able to maintain an adequate historical pattern.

- 8.104 **Airports and airport associations:** All airports and airport association argued that business and general aviation should not be entitled to grandfather rights, as this would result in less efficient use of airport capacity. It was suggested that local rules could be established at airports with high proportions of business or general aviation traffic if desired.
- 8.105 **Slot coordinators:** Nearly all coordinators argued that reserving a number of slots for business aviation operators would be wasting valuable airport capacity. Brussels Slot Coordination also argued that business operators were no different to ad-hoc charter operators and additional scheduled flights, and should therefore be treated on the same basis. It also raised the two practical issues of what would happen when the specific business/general aviation slots are full and how best to decide on a fair allocation of business aviation slots. COHOR suggested incentivising ANSPs to free up capacity to the slot coordinator on a day-to-day basis if possible without historic rights. Only the airport coordinator in Norway stated that there would be no difficulties in introducing such a scheme.
- 8.106 **Member States:** Most responding Member States did not support this proposed, as it would favour a specific sector of the market, risk scarce slots being inefficiently utilised, or be difficult to manage. Spain and Greece argued that the issue would be best solved at the local level. The UK suggested that allowing bodies other than airlines to purchase slots on the secondary market could be a possible solution if shown to be fair, transparent, workable and not running the risk of under-utilisation. One Member State stated that reserving a number of slots per hour would be a solution, but acknowledged that this should not be allowed to harm the efficiency of other operations.
- 8.107 **Other:** All other commentators shared the view that reserving a number of slots to business aviation operators would have a negative impact and lead to preferential treatment, which seems against the equality principle. Most argued that the operators could easily use secondary airports provided that runway capacity is available at affordable prices. DCCA also believed that it would have a negative impact on competition between commercial airlines.

Question 15.3: Should the current definition of business aviation in the Regulation be changed or updated and if so, in what way?

- 8.108 **Airline and airline associations:** No commercial airlines and airline associations recognised the need to change the definition. In contrast, EBAA believed that it should be amended to that used by the International Business Aviation Council, namely 'the sector of aviation which concerns the operation or use of aircraft by companies for the carriage of passengers or goods as an aid to the conductor of the business, flown for purposes generally considered as not for public hire'. NetJets stated that it depended on how the definition would be used in the Regulation; currently the Regulation is only relevant where business aviation operates according to a schedule. In general NetJets believed the definition should be aligned with that of European safety and security legislation.
- 8.109 **Airports and airport associations:** Most airports that responded to this question believed that the current definition should be kept; however one airport operator said that it should be defined more precisely.
- 8.110 **Slot coordinators:** Coordinators expressed varying opinions. Airport Coordination Norway believed the definition was adequate, whereas EUACA and SCA highlighted that the Regulation should be clarified to take into account developments with the business aviation sector. Brussels Slot Coordination believed that traffic should not be sub-categorised further, and that the only important issues were to define series and ad-hoc flights.
- 8.111 **Member States:** Sweden and another Member State believed there was no need for change, whilst France, Greece, Poland and Spain supported clarifications; albeit with some caveats. France added that the issue seemed to go beyond the context of the Regulation, and Poland that revision might be needed if the rules on allocating business/general aviation slots were amended. Other States did not express any opinion.
- 8.112 **Other:** The few other stakeholders who expressed an opinion believed that no change in definition was necessary.

Option B5: Operations without slots, or at times significantly different from the slot

Question 16.1: To what extent, and how, have ATM authorities made use of their existing power to reject flight plans where an air carrier intends to use an airport without having an appropriate slot?

- 8.113 **Airline and airline associations:** Eleven respondents stated that the operational and planning processes associated with slot management are currently completely independent from one another and satisfy their own objectives; and Condor believed that ATC was not able to reject flight plans for off-or no-slot operations. British Airways suggested that this power was 'not used greatly' by ATM authorities, and four other EU carriers suggested that for some special events (e.g. the Euro 2008 in Austria and Switzerland) and at certain airports flight plans have been rejected if no slot had been allocated. One of these carriers also added that ad-hoc occurrences had been noted in Spain.
- 8.114 **Airports and airport associations:** Manchester and Gatwick airports believed that

the UK slot sanction scheme dealt effectively with this issue. Another European airport managing authority stated that flight plans had not been rejected for this reason, and Zurich Airport suggested that ATM was only interested in ATC and not airport slots.

8.115 **Slot coordinators:** All coordinators suggested that this power was used only rarely, or not at all. ACD and Airport Coordination Norway stated that this power has not been applied, ACD stating that ATC used its information only to plan its staffing levels, and Airport Coordination Norway adding that there was not a culture of enforcement among ATM employees. EUACA, Brussels Slot Coordination and COHOR believed that ANSPs usually refrain from taking such action except in special circumstances.

8.116 **Member States:** The Belgian CAA stated that Belgium will soon start the implementation of Article 14 for flights departing Brussels Airport. The UK stakeholders believed that there is no mechanism to reject flight plans on this basis because flight plans are filed with the CFMU which has no means of correlating flight plans with airport slots. The Hellenic CAA, DGAC France and the Swedish Transport Agency stated that this has not occurred in their respective States, in the case of Sweden because problems have been corrected through dialogue between the coordinator and operators. One Member State indicated that airborne operators would not be refused by its ATM authorities for reasons of safety. DGAC Spain indicated that regular comparisons between flight plans and slots are only conducted at Madrid Barajas and Palma de Mallorca, but it did not state whether this process has resulted in rejection of flight plans.

8.117 **Other:** Other stakeholders did not provide relevant responses to this question

Question 16.2: What would be the advantages and disadvantages of amending the Regulation to allow airports or the central unit for air traffic flow management to refuse to allow a flight to operate if it does not have an appropriate slot? What, if any, administrative costs would this generate? What could be the operational impacts of such a measure?

8.118 **Airline and airline associations:** Most carriers took the view that current means of addressing abuse were sufficient and that no additional measures were required. Many stakeholders highlighted that the issue had already been discussed in connection with the Single European Sky ATFM implementing rule and had already been rejected for reasons of practicability. Few respondents identified advantages, although easyJet stated that it would support an amendment which required initial (as opposed to on-the-day) flight plans to be consistent with airport slots; a number of carriers cited the impracticability of refusing flights which were already en route. Only the EBAA, Condor and NetJets were broadly supportive, with EBAA and Condor adding that such powers should apply only to flights without slots and not off-slot operations. Carriers were more supportive of granting powers to ATC than airport authorities, as these are commercial entities with their own interests, and in any case have other means at their disposal to reject flights (for example by allocating remote parking, not providing handling services or banning carriers). British Airways suggested that involving ANSPs or airport authorities in the slot coordination process would undermine the independence of the coordinators and complicate the process. Several respondents suggested alternative approaches – two carriers preferred reprimands after

the offence, possibly with increasing punishments for each repeat offence. One non-EU carrier predicted more administrative work and staff costs for ATC and CFMU and Condor anticipated considerable costs in connecting coordinator and ATC IT systems; whereas NetJets did not believe that the proposal would produce any significant expenses or any significant operational impacts. Cathay Pacific highlighted some practical issues – although flight plans are forced to change frequently it is difficult (if not impossible) to continually change the associated slots.

- 8.119 **Airports and airport associations:** These stakeholders were more commonly in favour of the proposal. Oslo and Zurich airports expressed the clearest support, Oslo stating that the proposal would be an improvement as refusal to operate was the best form of enforcement available, and Zurich that CFMU should not only be given the right but the duty to refuse flights without or significantly off-slot. ACI, BAA and Fraport stated that within the framework of A-CDM the participating authorities should have the competencies to reject flights which are intentionally operated without slots, but called for clarification of what correct slot usage actually is. One airport authority suggested that the approval process for flight plans should also include a verification of whether a slot formed part of the plan. Schiphol was opposed to airports being granted this role, adding that the airport is a provider of infrastructure and not an enforcement body. Manchester Airport did not believe that changes were required, and that the existing processes were fit for purpose when slot coordinators function properly. Only Zurich Airport made reference to costs, identifying that these would be generated by linking airport slots data into the CFMU.
- 8.120 **Slot coordinators:** All respondents were generally in favour of the proposal, with certain caveats. COHOR highlighted the problems associated with rejecting flight plans after ATFM acceptance, suggesting that the solution would be more effective if applied in the initial validation process. Brussels Slot Coordination suggested that the CFMU would be the more appropriate body given its independence and the lack of commercial pressure by its customers. SCA took the opposite view, emphasising that only one organisation should decide, but that this should be the coordinator. The Belgian coordinator also highlighted the costs of investing in a common database.
- 8.121 **Member States:** The Member States expressed a divergence of views in response to this question. Advantages were cited by Belgium, Greece, Poland and Spain; and comprised additional efficiency, ‘operational benefits’, improvements in the flow of traffic and forcing carriers to adhere to the timings of their slots. Disadvantages were cited by Belgium, Greece, Italy, Poland and another Member State; comprising additional monitoring costs, disruption to passengers and other flights, loss of flexibility to respond to extraordinary events and ‘additional macroeconomic costs’. Some practical issues were also highlighted by several states; most commonly which organisation should be responsible for the refusal of flight plans. DGAC Spain stressed that only one organisation should be given this role, DGAC France could be supportive if powers were given to the CFMU (but not airports), and others referred only to the CFMU or ATM authorities in their response. DGAC Spain and another Member State drew a distinction between ‘no slot’ and ‘off slot’ operations, the latter suggesting that ‘off slots’ should be allowed to proceed, but that the CFMU should refuse the flight plans of ‘no slots’. The UK CAA / DfT suggested that the appropriate solution was not to amend the Regulation, but to devise a suitable mechanism to allow

the correlation of flight plans and slots

- 8.122 **Other:** PANSA was the most supportive of the proposal, suggesting that it would be beneficial for the optimisation of airspace availability, although highlighted that the CFMU would then become a party in the coordination process. Norton Rose believed that Article 14.1 already granted sufficient powers for the refusal of flights without appropriate slots, and Danish Aviation stated that the ATM authority was the correct organisation to address such issues. Despite citing costs associated with upgrading the CFMU for its expanded role, one citizen believed that these would be offset by the benefits to society of better use of capacity and less engine running time.

Option C1: Define the ownership of slots

Question 17: Does the current lack of definition of ownership of slots cause any problems for the slot allocation system? If so, how? What would be the advantages and disadvantages of amending the Regulation to introduce a definition of the ownership of slots? What, if any, administrative costs would this generate?

- 8.123 **Airlines and airline associations:** Almost all airlines and airline associations argued that it was not necessary to define the ownership of slots in any more detail than the current Regulation does. Airlines believe the Regulation currently works well without any definition, and in particular noted that the lack of a definition has not precluded the development of a secondary market in slots. However, two airlines disagreed. easyJet suggested that making clear that airlines own the slots (which in economic terms is the result of the current arrangement) would facilitate secondary trading in slots, and NetJets said that it would reduce ambiguity, although did not explain what actual benefits if any it expected.
- 8.124 **Airports and airport associations:** A number of airports and airport associations argued that the airports should own the slots. Where any justification for this was given, it was that the airport invests to create the capacity (slots). Fraport argued that the airport should obtain a share of revenue from slot auctions or secondary trading. However, this view was not held by all airports: Schiphol Airport argued that a definition was not required, and could create perverse incentives to restrict capacity growth. BAA also argued that the lack of any definition had not created problems, and Zurich Airport raised a concern that if ownership was defined, the airport would face compensation claims if, due to constraints, the number of slots had to be reduced.
- 8.125 **Slot coordinators:** The coordinators all believe that it is not necessary to define the ownership of slots and the current Regulation works well without this.
- 8.126 **Member States:** Most States considered that the lack of definition of the ownership of slots had not been a problem. France said that the focus should be on specifying transparent procedures for allocation and utilisation of slots, rather than ownership; it noted that the Regulation worked very well without this issue being defined. The UK government argued that the lack of any definition of ownership had not been a problem for the day-to-day operation of the Regulation but emphasised that if ownership was to be defined, the interests of the State should be considered. Greece argued that a definition had not been necessary so far, although it might be necessary

to define this if slot trading was introduced. Italy said that a definition created at Community level could create conflicts with national legal systems.

- 8.127 **Other respondents:** The Airport Regions Conference argued that the ownership of slots was important for regional connectivity and the Commission should consider how to ensure this, for example through PSOs. The French Competition Authority argued that defining slots as being owned by airlines could result in strengthening the position of dominant incumbents. The Danish Competition and Consumer Authority stated that ownership should be defined as part of a general revision to the process for allocation of slots, including withdrawal of grandfather rights, in order to facilitate market entry. There was no consensus amongst other stakeholders who responded, with some arguing that a definition would be helpful and others arguing that it was unnecessary.

Option C2: Introduce an EU-wide regime of secondary trading

Option C2.1: Introduce secondary trading at all EU airports

Question 18.1: What impact has secondary trading had, in particular, on usage of slots, mix of services operated, and competition?

- 8.128 **Airlines and airline associations:** Almost all of the airlines and airline associations that expressed any views on the impact of secondary trading believed that it had been positive, in that it had increased the liquidity of the slot market, provided a means for new entry, and made the utilisation of slots more efficient. However, two non-EU carriers argued that secondary trading was unfair to small carriers. Many airlines emphasised that it was not necessary to change the Regulation in order to allow secondary trading: some argued that it would have limited benefits at airports other than Heathrow, as demand for slots does not exceed supply at these airports, and airlines would always be reluctant to sell their peak slots.
- 8.129 **Airports and airport associations:** There was no agreement amongst the airports and airport associations that responded, and many did not express any views on the impact of secondary trading. ACI and BAA argued that secondary trading should be explicitly permitted, subject to some conditions, principally that trading should only be possible for historic slots and between air carriers, that trades should be checked with the coordinator and airport to ensure that there was sufficient capacity in all elements of the airport system (for example, a trade could be between two airlines which use different terminals or different aircraft types), and that there should be transparency about the trade. However another major airport group argued that secondary trading would distort competition by creating a barrier to entry, limit the growth in air traffic, create perverse incentives if slots could be held by intermediaries, and generate operational difficulties for airports if trades were not operationally possible (for example, between Schengen and non-Schengen carriers).
- 8.130 **Slot coordinators:** Most coordinators did not express any views on the impact of secondary trading as it was not occurring at the airports at which they operated. Airport Coordination Denmark stated that secondary trading would lead to fewer local/commuter services, and Brussels Slot Coordination stated that it would exclude small operators and competitors of the seller. EUACA, representing all coordinators,

argued that trading had resulted in better use of slots at Heathrow but it had not had significant impacts elsewhere.

- 8.131 **Member States:** The UK argued that secondary trading had had significant benefits at Heathrow and Gatwick, enabling airlines to respond to changing market conditions and enhancing competition by increasing the liquidity of the slot market. It noted that, as a result of secondary trading, Virgin Atlantic had been able to grow at Heathrow and low cost carriers at Gatwick, despite severe slot constraints, and that this had enhanced competition. In contrast, France argued that secondary trading would be a source of complexity and would not lead to a diverse air transport offer, or an optimal allocation; it also emphasised that, if there is trading, it should be transparent. Other Member States did not express any opinion, in some cases stating that this was because secondary trading did not occur in their States.
- 8.132 **Other stakeholders:** DCCA argued that secondary trading was beneficial as it resulted in more slots becoming available at congested airports, but the lack of transparency could have a negative impact on competition. The law firm Norton Rose argued that it had resulted in more efficient use of airport capacity in the UK and the USA but there was a risk it could enable the dominant carrier to increase its share of slots. Most other respondents did not answer this question.

Question 18.2: What would be the advantages and disadvantages of amending the Regulation to explicitly state that secondary trading in slots is permitted at all EU airports?

- 8.133 **Airlines and airline associations:** Many airlines and airline associations did not respond to this question, referring to their answers to the previous question. Those that did respond were divided between some who considered that it would be helpful to explicitly authorise secondary trading, so that this could take place at non-UK airports and in order to improve transparency, and those that considered it was not necessary to amend the Regulation as secondary trading can already take place.
- 8.134 **Airports and airport associations:** Again, many airport operators did not express any view. Of those that did, Fraport, Gatwick and Schiphol argued that formalisation of secondary trading would be a benefit, in terms of increased efficiency in slot allocation, and improved transparency. Manchester Airport Group stated it opposed secondary trading between airlines because it believed that the slots should belong to the airport, but it did acknowledge that secondary trading might lead to a more efficient allocation where capacity was scarce. Another airport operator said that secondary trading would make it more difficult for new entrants to obtain slots.
- 8.135 **Slot coordinators:** EUACA stated that it had no position on this issue and most coordinators did not express any view. SCA and Airport Coordination Norway said that it would be beneficial for transparency and to make the Regulation less ambiguous. Brussels Slot Coordination said that it considered trading should be prohibited, but if it was not, it should be more transparent.
- 8.136 **Member States:** The UK argued that it was not necessary to revise the Regulation in this regard, and that any further regulation of trading could reduce the liquidity of the slot market; however, it argued that if the Regulation was to be changed, the need for

carriers to engage in artificial exchanges should be removed. Sweden considered that this could lead to more efficient capacity utilisation, but that there was a risk of limiting access to new slots to financially weaker companies. Spain said that the Regulation should be clarified in this regard, and that if trading was permitted, it should be subject to prior agreement of the coordinator and only trading of historic slots should be permitted. Finland said that it did not favour secondary trading, but if it was introduced, ownership of slots had to be clarified. Italy argued that secondary trading could create problems in terms of defining the legal ownership of a public good; and that large carriers might be the only ones with sufficient means to participate in the slot market. It also believed that the price paid for slots might be shifted by airlines onto passengers. France said that the impact would be limited as it would merely update the Regulation to reflect current practice; however, it would be important that the rules of the exchanges remained the same and that competition authorities could retain an appropriate enforcement role; it was also concerned that it could lead to speculative requests for slots.

- 8.137 **Other stakeholders:** The French competition authority stated that secondary trading would increase utilisation of slots and increase capacity, through increases in aircraft size; it estimated that the number of passengers handled at major airports in France could increase by 7%. However, it also noted that it could further strengthen the position of dominant incumbent airlines. Most other stakeholders that expressed any opinion also argued that the legalisation of secondary trading would be beneficial. However, the Gatwick Area Conservation Campaign argued that there should be no secondary trading, and that slots should be auctioned with discrimination against operators that take less account of environmental impacts.

Question 18.3: Please specify any impacts this would have on (a) the proportion of slots for which services would be scheduled; (b) the proportion of slots for which services had been scheduled that would actually be used; (c) the mix of traffic; (d) administrative costs; (e) competition; and (f) any other impacts.

- 8.138 **Airlines and airline associations:** Most airlines and airline associations did not answer this question, referring to their answers to the previous questions. Some non-EU carriers expressed a concern that secondary trading might lead to non-EU carriers being excluded, due to the greater market power of EU airlines. There was no agreement as to whether the impacts on competition would be positive, with easyJet suggesting secondary trading would encourage new entry, and Condor suggesting secondary trading would strengthen the power of incumbents.
- 8.139 **Airports and airport associations:** Almost all airports and airport associations also did not answer this question. The only airport representative to give a detailed answer was the German Airports Association, which noted that the experience at Heathrow has been short haul flights with small aircraft being replaced with long haul flights with large aircraft. It argued that the issue of secondary trading should be addressed as part of the revision to the Regulation but that it should be subject to some conditions (equivalent to those proposed by BAA and ACI – see under question 18.1 above).
- 8.140 **Slot coordinators:** The coordinators did not comment on the impacts, other than Airport Coordination Denmark, which repeated that there might be fewer local or commuter flights.

- 8.141 **Other stakeholders:** Most others, including all Member State and regional and local government respondents, also did not express any opinions on the impacts of secondary trading. However, the Danish Competition and Consumer Authority argued that secondary trading should lead to a more efficient allocation of slots and more slots being available at congested airports.

Option C2.2: Limit restrictive covenants

Question 19.1: What would be the advantages and disadvantages of amending the Regulation to prohibit the placing of restrictive covenants on slot transfers?

- 8.142 **Airlines and airline associations:** Most airlines and airline associations said they believed that restrictive covenants in slot trades did not exist, and almost no airlines supported a prohibition on restrictive covenants. ELFAA and British Airways argued that anti-competitive restrictive covenants would already infringe competition law. Air France argued that any restriction on slot trading would reduce the (already low) number of transactions and Condor argued that such a prohibition would lead to airlines only selling slots to airlines that they were confident would not compete with them. However, easyJet said that there would be no disadvantages in prohibiting restrictive covenants.
- 8.143 **Airports and airport associations:** Most airports and airport associations did not respond to this question. Gatwick airport said that there was a risk that any regulation could lead to efficient slot trades not occurring, and that competition issues should be dealt with through general competition law. Amsterdam Schiphol airport said that the terms of slot trades should be left to airlines, although the terms should be in line with competition law.
- 8.144 **Slot coordinators:** Most slot coordinators did not express any opinion. However, Brussels Airport Coordination argued that the European Commission in effect imposed restrictive covenants on airlines, by requiring that slots divested as conditions for airline mergers be used for specific routes.
- 8.145 **Member States:** The UK said it would support a prohibition of restrictive covenants if there was evidence that restrictive covenants were having a negative impact on competition and efficiency, and those covenants were legally enforceable, and provided that prohibition would not deter trading. Sweden stated that it was not aware of any such restrictions existing but would support prohibition. France argued that restrictive covenants would already infringe competition law. Poland and Italy said that it should not be possible to impose restrictive covenants.
- 8.146 **Other stakeholders:** The French Competition Authority believed that if secondary trading was authorised but non-compete agreements created an obstacle to the efficient use of slots, then they should be prohibited. The law firm Norton Rose LLP advised that competition law at national and European level was already sufficient to address anti-competitive impacts of such clauses. DCCA believed that slot use should be unrestricted to promote competition, but this might result in airlines being less willing to exchange slots. Most other stakeholders, including the two regional and local government respondents, did not address this question.

Question 19.2: Please specify any impacts this would have on (a) the proportion of slots for which services would be scheduled; (b) the proportion of slots for which services had been scheduled that would actually be used; (c) the mix of traffic; (d) administrative costs; (e) competition; and (f) any other impacts.

- 8.147 **Airlines and airline associations:** Most airline representatives did not respond to this question, and most of those that did argued that there would be no impacts. A small number of airlines stated that this would be positive in terms of the impact on competition.
- 8.148 **Airports and airport associations:** BAA, ACI and the German Airports Association responded in equivalent terms that “the existing safeguarding covenants to slot transfers should remain in place”. Other airport representatives did not respond to this question.
- 8.149 **Member States:** Member States did not respond to this question, or stated that they did not have any views on what the impacts would be.
- 8.150 **Other stakeholders:** Other stakeholders, including the slot coordinators, did not respond to this question.

Option C2.3: Require post-trade transparency

Question 20.1: What degree of transparency regarding slot trades is required to encourage slot mobility? What would be the advantages and disadvantages of amending the Regulation to require transparency about slot trades, including the identities of the carriers, any payment or other consideration and whether the exchange is permanent or a lease?

- 8.151 **Airlines and airline associations:** Most airlines and airline associations believed that no further transparency about trades was required, and of those that argued that there should be more transparency considered that confidential and commercial information, such as the price that had been paid, should not be released. Two cited the slottrade.aero website covering UK airports and suggested the same level of information should be available on secondary trades at other airports. The only airline to state that price information should be published was Air France.
- 8.152 **Airports and airport associations:** ACI, Fraport and BAA responded in similar terms that full transparency was required, including the price and any conditions attached. Manchester and Gatwick airports also argued for full transparency. However, Schiphol said that only the fact of the exchange and whether it was temporary or permanent should be published; any other requirements could lead airlines to artificial exchanges to get around the requirement.
- 8.153 **Slot coordinators:** Most coordinators did not provide detailed responses, but supported the principle of transparency. EUACA responded that the IATA rules on transparency should be followed.
- 8.154 **Member States:** The UK noted that there already was transparency about what trades took place through the slottrade.aero website. It did not support airlines being required

to disclose price information, because it would deter airlines from participating in trading (which it believed generates consumer and competitive benefits), and it also believed that this was impractical as slots would often be sold as a package and the deal might include non-monetary elements. France supported transparency, including about the price, although believed there could be a disadvantage if this was transparent at EU airports but not non-EU airports. Italy believed that details should only be disclosed to the coordinator and the CAA. Poland stated that information should be equally available; and Sweden said that there should be as much transparency as possible.

- 8.155 **Other stakeholders:** The French Competition Authority believed that transparency could be required, including about the nature of the transaction and the price. The law firm Norton Rose stated that the details of the transfer should already be clear to the coordinator and should be available to other parties, but that pricing information should not be disclosed. The Aviation Environment Federation believed that transparency would assist the functioning of the market. Most other stakeholders did not respond to this question. An individual citizen argued that transparency was not necessary as the information was commercial and confidential.

Question 20.2: Please specify any impacts this would have on (a) the proportion of slots for which services would be scheduled; (b) the proportion of slots for which services had been scheduled that would actually be used; (c) the mix of traffic; (d) administrative costs; (e) competition; and (f) any other impacts.

- 8.156 **Airlines and airline associations:** Most airlines and airline associations either believed that requirements for greater transparency would have not impact, or did not respond to this question. NetJets Europe argued that transparency would reduce the risk of abuse of a dominant position and therefore improve scheduling and the mix of traffic.
- 8.157 **Airports and airport associations:** Almost all airport representatives did not respond to this question. However, the German Airports Association emphasised that transparency was essential; it believed that high value slots had been exchanged and there probably would have been compensation but this was not clear.
- 8.158 **Slot coordinators:** Most coordinators did not respond to this question. Brussels Slot Coordination believed that transparency requirements would lead to more slots being returned to the pool.
- 8.159 **Member States:** France stated that transparency would not impact any of the issues raised in the question, but was nonetheless important to provide information to the coordinator and the authorities. Other States did not express any views.
- 8.160 **Other stakeholders:** Other stakeholders generally did not respond to this question, apart from the Gatwick Airport Conservation Campaign which argued that banning slot trading would improve efficiency.

Option C2.4: Centralised auctions to exchange slots

Questions 21.1: What would be the advantages and disadvantages of amending

the Regulation to replace the current system of decentralised, bilateral slot exchanges with centralised auctions of slots that carriers wish to give up?

- 8.161 **Airlines and airline associations:** Almost all airlines and airline associations opposed this proposal. For example, Ryanair argued that slot auctions would make the process more complex and costly, and produce no benefits for anyone. AEA and several network airlines said that no restrictions should be placed on secondary trading, as this would lead to airlines being less willing to sell slots, and thereby reduce the potential benefits of increased liquidity. British Airways said that any argument that auctions generate a more efficient allocation of capacity depend on an assumption that the aviation market operating in a commercially rational way, which it does not, due to some airlines receiving State support, and restrictions in bilateral agreements. However, NetJets supported auctions and argued that business aviation must be able to bid for and retain slots, rather than these being allocated on a historic basis to incumbent airlines.
- 8.162 **Airports and airport associations:** There was no agreement amongst airport operators in response to this question. Schiphol believed that secondary trading should be allowed to complement the existing administrative allocation but that no restrictions should be placed on it, as this would just lead to artificial exchanges. ACI, Fraport and BAA responded in similar terms that a detailed impact assessment would be required. Gatwick stated that the impact on competition should be positive, but Oslo Airport Ltd believed any auction would disadvantage small and regional carriers, with no benefits for competition. Manchester and some other airports said that the proceeds from auctions should not flow between air carriers as the infrastructure belongs to the airports.
- 8.163 **Slot coordinators:** Slot coordinators generally did not respond to this question. SCA said that auctions should not be centralised and that subsidiarity was required.
- 8.164 **Member States:** The UK believed that centralised auctions would reduce the fluidity of the slot market and hence the volume of trades. Spain also said that it could reduce the volume of trades, and it would not be possible to achieve swaps of slots of different values. Sweden believed that auctions would increase transparency and the proper functioning of the market. Belgium stated that it did not support auctions as these would not solve the capacity problem and would make the system more complex and expensive. Another Member State said that no auction was necessary as the slot could be reallocated by the coordinator. France emphasised that it was opposed to any auction system, however it was organised, due to the potential for instability, increased market concentration, and the risk of increased market entry by non-EU airlines. It pointed out a study of potential for market mechanisms had been undertaken in France which concluded that a slot auction would be unworkable due to high transaction costs and the complexity of the process.
- 8.165 **Other stakeholders:** The French Competition Authority stated that, if secondary trading was introduced, it should be organised by coordinators or regulatory authorities. DCCA noted that this proposal would increase access to slots but reduce the volume of trades, as airlines might 'babysit' slots rather than release them to an auction where a competitor could obtain them. Norton Rose argued that any centralised auctions would distort competition and further strengthen the position of

dominant airlines. The Danish Aviation trade organisations said that the current Regulation works well and there is no need for any such amendment. The Aviation Environment Federation supports auctions as it believed a local exchange would lead to sub-optimal allocation.

Question 21.2: Please specify any impacts this would have on (a) the proportion of slots for which services would be scheduled; (b) the proportion of slots for which services had been scheduled that would actually be used; (c) the mix of traffic; (d) administrative costs; (e) competition; and (f) any other impacts.

- 8.166 **Airlines and airline associations:** Many airlines and airline associations did not respond to this question, and those that did, did not respond in detail. Of those that responded, most said the impact of centralised auctions would be to reduce the volume of trades. ERA said that centralised auctions would result in services to the regions being squeezed out and replaced with long haul flights by non-EU airlines that could make the highest bids. However, NetJets said that a centralised auction would be good for competition and maximise usage of slots.
- 8.167 **Airports and airport associations:** ACI and the German Airports Association said this question could not be answered without a comprehensive analysis of the general framework of the auctioning process and its impacts. Oslo Airport Ltd said that this would increase costs without other advantages. Manchester Airport Group said it would have no impact at its airports other than imposing unnecessary costs and administrative processes. Other airports did not respond to this question.
- 8.168 **Slot coordinators:** The slot coordinators did not respond to this question.
- 8.169 **Member States:** The Member States did not respond to this question.
- 8.170 **Other stakeholders:** Other stakeholders did not respond to this question, other than the Gatwick Airport Conservation Campaign which reiterated its support for auctions.

Question 21.3: Who should manage these auctions, and why?

- 8.171 **Airlines and airline associations:** Most airlines and airline associations did not answer this question, or only reiterated their opposition to any type of auctions. Those airlines which did address the question directly said that the auction should be managed by the coordinator or another neutral body.
- 8.172 **Airports and airport associations:** Gatwick Airport said that the auction should be managed independently from the airlines, with airlines not having access to information about the identity of individual bidders. Oslo Airport Ltd and Manchester Airport Group said that as the airport owns the slots it should manage the auctions; Manchester said that the auction could also be managed by the coordinator. Other airports did not respond to this question.
- 8.173 **Slot coordinators:** SCA said that the auctions should be managed by the coordinator. Other Slot coordinators did not respond to this question, other than Brussels Slot Coordination which reiterated that it did not believe slot trading was a solution to increase the number of movements.

- 8.174 **Member States:** Spain said that the airport operator had expressed its interest in having a leading role in a possible auction system, as in any process that entails the trading of the capacity that it has created. Poland said that ideally there would be a single, centrally administered system for all European airports. Italy said that the coordinator should manage the auction. France said that the auctions would have to be performed by an organisation with established experience in competition, which would not be the coordinator. Other States did not respond to this question.
- 8.175 **Other stakeholders:** An individual citizen argued that the primary market should be managed by airport operators, which it believed would also lead to greater competition among airports and therefore better use of capacity. Most other stakeholders did not answer this question.

Option C3: Two stage hybrid auction process for slot allocation

Question 22.1: What would be the advantages and disadvantages of amending the Regulation to replace the current system of administrative allocation of slots with a two stage hybrid system, by which carriers would bid for scheduling rights, followed by an administrative allocation of these slots between the carriers that had scheduling rights?

- 8.176 **Airlines and airline associations:** There was almost universal opposition amongst airlines and airline associations to this proposal, with many airlines providing detailed responses. Many including Cathay Pacific, Ryanair, Thomson, Air France, FNAM and IACA said this would introduce complexity with little added value. Others including AEA said that the concept of ‘broad time windows’ was of no use in airline scheduling when precise timings were required.
- 8.177 British Airways pointed out that auctions for 3G mobile phone licenses had produced substantial revenues for government but was damaging for the bidders that paid too much; there was a risk that airlines would overpay to ensure that they obtained workable schedules, but would then face financial problems.
- 8.178 IATA, British Airways and others said that this proposal would be unworkable as the airline would need to simultaneously secure matching slots at each of a route, which would mean that the auction would have to take place in parallel at every European airport and be followed by a separate process to optimise time slots. IATA, FNAM, Malaysia Airlines and others also pointed out that this would be incompatible with the slot allocation system used in the rest of the world. Condor and others also said that it would lead to higher prices for the consumer. NetJets also said that the hybrid process would create an unnecessary administrative burden. The need to bid for new slots would also penalise start-up and financially weaker airlines.
- 8.179 **Airports and airport associations:** ACI, BAA and Fraport responded that a detailed impact assessment would be required. BAA said an auction might be most appropriate as a means for funding new capacity. Fraport emphasised that the airport operator should receive a share of auction revenue. Amsterdam Schiphol, Oslo and Zurich airports said that the proposed mechanism was complex and would not add value. Gatwick said that a market mechanism for primary allocation would be preferable to

the administrative allocation, and the priority should be that the bid process is straightforward even if the auction design is complex.

- 8.180 **Slot coordinators:** Most slot coordinators did not express any opinion. However, Brussels Slot Coordination said the proposal would bring complexity and additional cost, and SCA said that it would bring slot coordination into the framework of traffic right negotiations.
- 8.181 **Member States:** The UK said that in principle an auction would be the most effective approach if the amount of new capacity to be allocated was significant enough for the benefits to exceed the costs of the auction mechanism. Spain said that it would mean a cost for airlines and that part of the revenue should go to the airport operator to fund capacity increases and environmental mitigation. Poland said that this might make the slot allocation system excessively complicated. Italy said that this might be difficult to apply and it might be better to retain the existing administrative allocation. France and Belgium said that they did not support auctions. Another Member State also did not support the proposal: it said more investigation would be needed but it would introduce a lot of complexity and administrative costs.
- 8.182 **Other stakeholders:** The European Express Association said that this proposal would increase complexity without delivering benefits. The law firm Norton Rose said that the disadvantages, in terms of practical difficulties, would not offset the benefits. The Aviation Environment Federation said that this would be preferable to the current system but less effective than a single round auction. Most other stakeholders did not respond.

Question 22.2: Please specify any impacts this would have on (a) the proportion of slots for which services would be scheduled; (b) the proportion of slots for which services had been scheduled that would actually be used; (c) the mix of traffic; (d) administrative costs; (e) competition; and (f) any other impacts.

- 8.183 **Airlines and airline associations:** easyJet said that the proposal would increase the proportion of slots utilised but not impact the proportion that would be scheduled, and administrative costs would increase. It thought that whether the impact on competition was positive or negative would depend on the auction design. NetJets said that the second stage, administrative process could lead to an unfair outcome. Most other airlines did not respond to this question or referred to their previous responses.
- 8.184 **Airports and airport associations:** Airports and airport associations did not express any views on the impact the proposal might have.
- 8.185 **Slot coordinators:** Slot coordinators did not respond to this question.
- 8.186 **Member States:** Member States also did not express any views on the impact the proposal might have.
- 8.187 **Other stakeholders:** DCCA said that the system could have a positive impact on the competition as the allocation would take place on a more equal basis. Other stakeholders did not express any opinions.

Question 22.3: Where should the proceeds from such auctions be allocated? Please give reasons.

- 8.188 **Airlines and airline associations:** easyJet responded in detail, arguing that revenue must offset future airport charges. It said that if revenue was taken by government, it would in effect be a tax, as there was no evidence that airlines earned excess profits, and if the revenue was taken by airports, it would give them excess profits for the provision of no services, and this would not be consistent with the principles of the Directive on Airport Charges that charges be cost-reflective. Most other airlines did not respond or only reiterated their opposition to auctions. Most of those that did respond said that the fees should remain within the aviation system, for example to offset other charges airlines pay. NetJets, uniquely, said that the revenue should go to the jurisdiction that created the policy of auctions.
- 8.189 **Airports and airport associations:** Manchester and Oslo airports, and the German Airports Association, said that the proceeds should go to the airport operator as it related to airport infrastructure. ACI reiterated that a thorough impact assessment would be required. Other airport stakeholders did not respond to this question.
- 8.190 **Slot coordinators:** SCA and Brussels Slot Coordination said that the revenue should go to the coordinator. Other coordinators did not respond to this question.
- 8.191 **Member States:** Most States did not respond to this question. The UK said that there were arguments for airlines, airports and the State to receive the revenue but that it would not want government ownership ruled out. Spain noted that the airport operator believed it should receive the revenue, to fund capacity expansion.
- 8.192 **Other stakeholders:** Most other stakeholders did not respond. The Aviation Environment Federation and the Gatwick Airport Conservation Campaign said that revenue should be allocated to national government as capacity was a public good. An individual citizen said that the right to sell slots should be granted by the State to airport operators.

Question 22.4: If this was applied should it be EU-wide or left to the discretion of individual States?

- 8.193 **Airlines and airline associations:** Most airlines and airline associations did not express any views. Of those that did, several responded in equivalent terms that allowing States to develop their own rules would lead to unmanageable complexity. However, Cathay Pacific and another airline responded that it should be left to the discretion of individual States.
- 8.194 **Airports and airport associations:** Manchester and Oslo airports said that, if there were auctions, the system should be EU-wide. However, most did not express any opinion.
- 8.195 **Slot coordinators:** SCA said that this should be left to the State concerned, whereas Brussels Slot Allocation said that there should be an EU-wide system to avoid discrimination. Other coordinators did not respond.

- 8.196 **Member States:** The UK and another Member State said that auctions would only make sense in certain circumstances, and therefore should be an option, subject to an assessment to ensure that there were no competition issues created by varying regimes in different Member States. However Poland said any system should be EU-wide.
- 8.197 **Other stakeholders:** Norton Rose said that no change was necessary but any system should be EU-wide to ensure consistency in the application of the Regulation. The Danish Competition and Consumer Authority argued that any change should be EU-wide, making the market accessible and less complex. An individual citizen said any change should be EU-wide through a Regulation, not a Directive. However, the Aviation Environment Federation said that States should be given discretion to design auctions to meet specific national circumstances.

Option C4: One stage auction process for slot allocation

Question 23.1: What would be the advantages and disadvantages of amending the Regulation to replace the current system of administrative allocation of slots with an auction process for slots?

- 8.198 **Airlines and airline associations:** There was universal opposition to this from scheduled and charter airlines. AEA and a number of airlines said an auction would not be a real market mechanism as there would not be a functioning market: it would disadvantage the EU-based carriers, as they would be forced to be the highest bidder at their home base in order to grow; slots from the pool would end up with carriers with the deepest pockets (some pointed to government-backed non-EU carriers); other parties, not linked at all to aviation, could enter the market for purely financial purposes; and the system would be excessively complex. IATA, Air France and others reiterated that a key advantage of the existing slot allocation system was the consistency with the process used in the rest of the world. Several airlines pointed to the risk that an airline would buy slots through an auction at one end of the route but then be unable to obtain them at the other, resulting in a wasted investment. A major network airline pointed out that previous studies had concluded that an auction mechanism could be infeasible due to the complexity. One pointed to potential costs for airlines of hundreds of millions of Euros to maintain their existing operations, which they would not be able to finance. However, NetJets said that a one stage auction could be the most efficient way of maximising the allocation and utilisation of slots.
- 8.199 **Airports and airport associations:** Most airports and airport associations referred to or repeated their answer to previous questions. Oslo Airport said that it opposed any auctioning of airport infrastructure as this would be unfair to existing carriers who had made investments in aircraft, and would not favour new operators as their resources are limited; it thought a consequence might be fewer operators and less competition.
- 8.200 **Slot coordinators:** Most coordinators did not respond or referred to their answer to previous questions. Brussels Slot Coordination said it was not in favour as it did not think that it would create a possibility for new operators or smaller competitors to obtain slots.

- 8.201 **Member States:** The UK reiterated that auctions could be the most efficient mechanism but only if the size of the amount of new capacity to be allocated made this worthwhile. Another Member State said that there appeared likely to be no benefits in comparison to the current system, but a lot of complexity and administrative cost. France and Belgium also reiterated their opposition to auctions. Italy said that an auction could be used to replace waiting lists but should be used only for slots voluntarily returned to the pool by airlines.
- 8.202 **Other stakeholders:** The Danish Competition and Consumer Association said that an auction would provide monetary incentive for airlines to give up slots, which would be an advantage it could lead to more competition. An individual citizen also supported auctions stating that it would lead to more efficiency, more competition among airlines, and an incentive to use underutilised aerodromes, with positive impact on economic development. The Airport Regions Conference said transparent and unbiased information on business transactions makes decisions easier and consumer better informed. The Airport Environment Federation said that slot auctioning would increase economic and environmental efficiency. Most other stakeholders either did not respond or referred to their answers to previous questions.
- Question 23.2: Please specify any impacts this would have on (a) the proportion of slots for which services would be scheduled; (b) the proportion of slots for which services had been scheduled that would actually be used; (c) the mix of traffic; (d) administrative costs; (e) competition; and (f) any other impacts.**
- 8.203 **Airlines and airline associations:** Most airlines and airline associations referred to their responses to previous questions or reiterated their opposition to auctions. ERA reiterated that an intercontinental flight operated by widebody aircraft could always outbid a regional flight with 100 seat aircraft. easyJet also said that distortions in the aviation market would impact the result of any auction: for example, operators of routes on which there are bilateral restrictions (and hence higher profits) would be able to outbid operators of other routes.
- 8.204 **Airports and airport associations:** The German Airports Association said that auctions could be most appropriate where there was substantial new capacity, such as a new runway, and for the major hubs, where it should be ensured that sufficient capacity is available for long haul flights and not allocated to other flights that could use alternative airports. Manchester said that at airports such as its own there would be no beneficial effect of such a change, which would require considerable administrative effort to implement. Other airports did not express a view on the impact or referred to their response to previous questions.
- 8.205 **Slot coordinators:** Slot coordinators did not respond to this question.
- 8.206 **Member States:** Member States did not respond or referred to their responses to previous questions.
- 8.207 **Other stakeholders:** DCCA said that from a competitive point of view, an auctioning process on an objective and fair basis would secure the most efficient slot allocation, benefiting competition. However, it also noted that new entrants typically do not have the same financial resources as established carriers which could limit their

participation in an auction. The Gatwick Area Conservation Campaign reiterated that it thought auctions were the most efficient means of allocating slots and ensuring competition.

Option C5: Withdrawal of slots

Question 24.1: What would be the advantages and disadvantages of amending the Regulation to introduce withdrawal of slots, in parallel with the introduction of auctions, at all coordinated airports? If this was introduced, what proportion of slots should be withdrawn each year?

- 8.208 **Airlines and airline associations:** Virtually all airlines and airline associations expressed strong opposition to the withdrawal of slots, as might be expected. A number of reasons were raised. ELFAA, FNAM, Cathay Pacific, Ryanair, AEA, Thomson, ERA, Air France, British Airways and others said that airlines needed certainty about slot allocations to be able to make investments, particularly long term investments in fleet. Condor also pointed to the instability that this would create in the schedule: every departure or arrival slot is dependent on other slots, for example at the destination airport or at different times of day. It also noted that many charter flights (for example, those connecting with cruise ships) were planned more than a year in advance, which would not be possible if there was withdrawal of slots. Cathay Pacific said that fares would have to increase as a result. ERA argued that it could lead to schedule fragmentation (for example if a slot was withdrawn on one day from a daily service), and British Airways and others pointed out that it would cause instability as slots could be withdrawn at one of a route but not the other. Some network carriers pointed to the risk of retaliation against them at non-EU airports. easyJet said that if there was forced withdrawal of slots it would have to be set at a low value (5%) to avoid creating too much instability in the system.
- 8.209 **Airports and airport associations:** Most airports and airport associations that responded also opposed this. Amsterdam Schiphol said that consistency of schedules was essential for both airports and airlines. ACI, Fraport and BAA said that grandfather rights were necessary to safeguard medium and long term infrastructure investments. Manchester Airport Group said it would put EU airlines at a disadvantage against other airlines, and possibly lead to retaliation from third countries. Oslo Airport and another major airport group also opposed this. However, Gatwick said that the greater the proportion of slots allocated, the more efficient the market.
- 8.210 **Slot coordinators:** Airport Coordination Denmark said that withdrawal would be life threatening to the industry because investments in aircraft were based on historic rights to slots. Brussels Slot Coordination said that it would disadvantage small operators and also disadvantage EU carriers in competition with non-EU carriers, who do not have withdrawal of slots at their airports. However, SCA said that airlines that abused slots should be penalised by withdrawal.
- 8.211 **Member States:** The UK said that time limiting slots could affect airlines' route and network development decisions, and deter airlines from investing in new, more efficient fleets. Sweden said that it was reluctant to support withdrawal as it reduced the incentive for airlines to develop the market; although it might make it easier for

market entry, entrants might not be financially strong enough to buy slots in competition with established airlines. Spain, France, Belgium and another large Member State also opposed withdrawal of slots, citing the destabilising impact that this could have and the complexity and inconsistency with the established scheduling system. However, Poland thought this could be considered for the most congested airports and for carriers that had the largest market share.

- 8.212 **Other stakeholders:** The European Express Association said that withdrawal would impact investment and risk retaliation at non-EU airports. However, DCCA said that withdrawal should be introduced to improve competition and suggested 20% of slots per year could be withdrawn. An individual citizen said that withdrawal of slots could initially be 10% per year for a transition period and then be replaced with annual auctions. The Aviation Environment Federation said that withdrawal could be 25% per year to realise the benefits of auctions faster.

Question 24.2: Please specify any impacts this would have on (a) the proportion of slots for which services would be scheduled; (b) the proportion of slots for which services had been scheduled that would actually be used; (c) the mix of traffic; (d) administrative costs; (e) competition; and (f) any other impacts.

- 8.213 **Airlines and airline associations:** Most airlines either did not respond or referred to their responses to the previous question. AEA reiterated that there was a risk of retaliation at non-EU airports against EU airlines. ERA said that essential regional services would be lost as a result of slot withdrawal. Air Berlin said that additional capacity should be provided at congested airports to accommodate new entrants. easyJet said that it could create instability with the schedules and undermine competition and consumer benefits, if it led to excessive ‘churn’, although it could also increase efficiency.
- 8.214 **Airports and airport associations:** Most airports and airport associations did not respond to this question. The German Airport Association said that grandfather rights were essential to allow airlines to develop their schedules and safeguard medium/long term investments. Manchester said that at its airports, there would be much administrative work for no benefit.
- 8.215 **Slot coordinators:** Slot coordinators either did not respond or referred to their response to the previous question.
- 8.216 **Member States:** States either did not respond or referred to their response to the previous question.
- 8.217 **Other stakeholders:** Most other stakeholders also did not respond. However, the Danish Competition and Consumer Association said that it would enhance competition.

Question 24.3: If applied, should this policy be restricted to the most congested airports where virtually all slots are allocated through grandfather rights and what difference if any would this make to the impacts?

- 8.218 **Airlines and airline associations:** Most airlines and airline associations that answered this question reiterated their opposition in principle, but said that if it did apply it should be at all airports, so as not to discriminate against carriers based at the most congested airports.
- 8.219 **Airports and airport associations:** Manchester said that the policy should only be applied at congested airports, as to introduce such a policy at non congested airports would be unnecessary, bureaucratic and result in antagonism from airlines. Others did not reply.
- 8.220 **Slot coordinators:** Slot coordinators did not respond to this question.
- 8.221 **Member States:** Member States generally did not respond to this question. Spain said that historic rights should be retained at all airports, including the most congested.
- 8.222 **Other stakeholders:** DCCA said that the policy should be limited to the most congested airports to minimise administrative costs. The Aviation Environment Federation said that at non-congested airports the impact of an auction would be negligible as the price would be so low. An individual citizen said it should be applied at all airports.

Option C6: Allow more flexibility for local rules

Question 25: What would be the advantages and disadvantages of amending the Regulation to allow more local flexibility to develop policies for slot allocation? The precise criteria would be decided by the coordination committees at individual airports, subject to some requirements that criteria could not be unfairly discriminatory between carriers. What, if any, administrative costs would this generate? Could environmental and regional accessibility objectives be better ensured by local rules and if so, how? If local rules were allowed to be more flexible, how could the uniform application of the principles of the Slot Regulation be ensured? How could competition between airlines be ensured?

- 8.223 **Airline and airline associations:** All airlines and airline associations argued that slots should be allocated in a consistent way in Europe and that the approach should also be compatible with the IATA World Scheduling Guidelines. However, AEA, IATA and a number of airlines also acknowledged that, in limited cases, local rules can bring a certain amount of flexibility provided that they do not allow for discrimination or protectionism, have clear criteria, and are transparent and published. IACA, ELFAA and a number of airlines expressed clear opposition to allowing greater flexibility for local rules, advocating greater oversight of existing rules by the Commission. On the practical implementation of local measures, British Airways stated that it would rather see environmental parameters as part of the capacity declaration rather than introducing a new priority criteria for slot allocation. Another European airline hoped to see some sort of publicly available database or website listing all local rules. All airlines and associations believed that services to regional communities were more appropriately dealt with under the Public Service Obligation of the Regulation.
- 8.224 **Airports and airport associations:** All of the airports and airport associations that responded to the question, including ACI, Fraport and BAA, favoured allowing more

flexibility for local rules, as these could help reflect the individual nature of the traffic at each airport. However they also wanted to ensure that the allocation mechanism would remain fair, transparent and not discriminatory. ACI expressed concern that a proliferation of local rules could lead to inefficient capacity utilisation, and political interference to favour national or regional airlines.

- 8.225 **Slot coordinators:** All slot coordinators argued that there must be room for local management in the Regulation provided that transparency is ensured, that local rules do not allow discriminations on airlines and nationality and follow IATA World Scheduling Guidelines and general EU competition law. The number of local rules should also be limited to avoid proliferation.
- 8.226 **Member States:** Member States expressed a range of opinions, but the majority (the UK, Spain, Finland, Sweden, Finland and Italy) argued that they would be prepared to consider greater local flexibility provided that rules were non-discriminatory. The UK and France also perceived local rules as a convenient tool to address environmental issues at specific airports. The UK said that the proposal to secure regional accessibility was not clear, as there are already provisions in the Regulation for slots to be reserved for Public Service Obligation routes; the UK sees no reason to extend these provisions. It argued that secondary trading between airlines or allowing regional bodies to purchase slots on the secondary market could provide a means to preserve regional accessibility.
- 8.227 **Other:** Both regional government respondents stressed the importance of local rules for slot distribution. Concern was expressed that peripheral regions with low population density could face a competitive disadvantage when airlines consider what flights to allocate slots to, since the most profitable routes would be allocated the peak time slots, with a possible loss in connectivity to the major European cities. They mentioned possible policy options such as Public Service Obligations for peripheral regions at major airports, allowing regions or airports to buy slots in the secondary trading system, or reserving slots in a pool for designated regions and cities.
- 8.228 Almost all other stakeholders expressed similar opinions, arguing that local rules may add complexity, reduce transparency, unnecessarily complicate the entry of newcomers and jeopardise consistent application of the Regulation. However, most stakeholders recognise that environmental protection is based on local and State requirements and that therefore local rules could be appropriate provided they comply with the Regulation.

Option C7: New entrant rule

C7.1: Amend definition of new entrant to include carriers with a higher number of slots

Question 26.1 Has the new entrant rule been effective, in terms of promotion of competition on intra-EU routes, the development on new routes and obtaining slots at congested EU airports for new entrants?

- 8.229 **Airline and airline associations:** The most common response to this question was a cautious one, urging a detailed review of the new entrant rule before drawing any conclusions regarding its effectiveness. Several carriers did highlight its role in

allowing airlines to access slots at congested airports, although most also highlighted issues and deficiencies. Four respondents suggested that the effect of the new entrant rule has been limited at congested airports simply because capacity rarely becomes available. British Airways added that often new entrants only operate for a couple of seasons before ceasing operations. Two stakeholders emphasised that its effects are limited as carriers are unable to develop significant slot portfolios, which is important for competition on intra-EU routes. Several carriers were more critical of the new entrant rule; two highlighting the recent growth in the low cost carriers which occurred largely without the assistance of the new entrant rule. The same two carriers also believed that new entrant slots were inefficiently used, often featuring high mortality rates and small aircraft. The other dissatisfied carrier was NetJets, which did not favour the rule because it does not have the ability to maintain a slot portfolio and felt that it only served to restrict the number of slots available to it.

8.230 **Airports and airport associations:** All stakeholders which submitted a relevant response to this question agreed that the new entrant rule has had little or no effect, and that many new carriers have entered the market by other means. Schiphol added that the rule should be scrapped altogether; others took a more measured view and suggested amendments. One airport took a different view, and suggested that it has been difficult to enforce effectively, although added the view held by many airlines, that the number of slots which could be gained was not economically competitive.

8.231 **Slot coordinators:** EUACA stated quite simply that the new entrant rule had generally been ineffective. This was supported by Airport Coordination Norway (which highlighted the deterrent posed by the conditions attached to new entrant slots), SCA and ACD (which suggested that the rule is 'nice but not necessary'). Brussels Slot Coordination highlighted some success at Brussels, but only to a certain degree. COHOR said that it was necessary to define what the appropriate market was if measures were to be taken to encourage competition, and the Regulation was not clear in this regard. It noted that at Orly, the new entrant rule had been used by airlines to obtain slots but that they generally did not use these to compete directly with the dominant carrier at the airport.

8.232 **Member States:** Most states believed that the rule had at best only been effective to a certain extent, for various reasons. The UK's response suggested that the new entrant rule had only been partially successful, referring to the 2006 Mott MacDonald study which found that it promotes smaller, less effective competitors to incumbent carriers. However, it also indicated that the rule may have been more effective at the route level, particularly for long haul, low frequency services. The justification given by the Swedish Transport Agency was that the new entrant definition was too restrictive; ENAC suggested that the rule had not produced the expected results because few carriers had applied, and the Polish Civil Aviation Office suggested that the scope of the rule was limited because of the rarity of capacity increases at congested airports. Although it did not provide an opinion on the rule, CAA Finland indicated that peak slots are rarely freed for new entrants. In contrast with the other respondents, DGAC France believed that the rule had strengthened competition on intra-community services, supported new routes and allowed new entrants access to congested airports; and attributed the growth in low cost carriers at Orly airport to the new entrant rule. However, it reflects the views of the other states in adding that the effects of the rule

may be slow to emerge given the small number of slots becoming available. Finally, the Belgian CAA indicated that it had no information that the rule hadn't been effective.

- 8.233 **Other:** Only three stakeholders submitted responses to this question. The French competition authority believed that the rule had only been partially effective, highlighting the fragmented nature of the competition it generates. This view was reflected in the response prepared by Norton Rose, which added that the lack of airports capacity had also been a limiting factor. Danish Aviation believed that the rule had been effective to the best of its knowledge.

Question 26.2 What would be the advantages and disadvantages of amending the Regulation to increase the number of slots carriers can hold whilst being defined as a new entrant? If it was, what new definition should be used?

- 8.234 **Airline and airline associations:** As stated above, most carriers and their associations have recommended studies into the effectiveness of the current rule and consequently, many did not comment on this proposal. Where advantages were cited, these related to the potential competitive benefits which would be generated. Four network carriers expressed concern that increasing the threshold would leave the home base carrier as virtually the only incumbent, therefore restricting its growth. NetJets proposed widening the new entrant definition by withdrawing the maximum number of slots per day required in the definition. Several route-based suggestions were proposed: Condor suggested that adding some type of consideration of the route operated might be worthwhile, and two of the four network carriers mentioned above suggested that it might be useful to consider an alternate privilege for carriers requesting slots for a new destination, as this would widen passengers' travel options. This view was reflected by another EU carrier, which suggested giving priority to carriers introducing services on routes served by 1-2 operators. One non-EU carrier believed that this proposal would allow older operators to maintain their new entrant status, and would not change the number of available slots allocated to genuine new entrants.
- 8.235 **Airports and airport associations:** ACI Europe, BAA, Manchester Airport and another airport operator all supported the proposal, all except the latter operator stating that this would enable carriers with a small presence to develop greater critical mass to more effectively compete with incumbents (although Manchester added that the proposal set out in C7.2 would be more effective than defining the actual number of slots which a carrier could hold). Despite being supportive of revisiting the new entrant rule, Gatwick Airport suggested alternative approaches, namely policing the allocation of slots under competition law provisions or imposing a restriction on carriers seeking to obtain or strengthen dominant positions at airports. It added that it would welcome being given the power of veto over new entrants, for example through visibility of their business plan. The German Airports Association suggested linking new entrant status to a minimum aircraft size in order to encourage more efficient use of these slots. As stated above, Schiphol believed that the rule should be abolished.
- 8.236 **Slot coordinators:** COHOR stressed that defining new entrants at the airport level was less effective, as it was competition at the route level which was relevant and delivered the most benefits for consumers; it also argued that the period for which new entrants are not permitted to change route or transfer slots (2 years) is short. Similarly,

Airport Coordination Norway suggested that an amendment to consider city pair and frequency could increase competition. EUACA suggested that increasing the fewer than five slots threshold would allow a broader range of airlines to qualify for new entrant status, and reduce the issue of fragmentation of the pool (allocation of small numbers of slots to a large number of different carriers, who may not have sufficient presence at the airport to be able to provide effective competition).

8.237 **Member States:** Three States expressed some degree of support for a review of the new entrant rule, predicted by one Member State to strengthen the competitiveness of new entrants and consequently the attractiveness of airports. The UK CAA / DfT proposed several options: increasing the maximum number of slots which a carrier can hold whilst still being defined as a new entrant at the airport level, increasing the maximum proportion of slots at the airport level, or reducing the percentage of slots over which new entrants would have priority. DGAC Spain proposed a similar amendment, suggesting increasing or removing the fewer than 5 slots threshold, or allowing it to vary by route to more closely reflect the frequencies required to be competitive. DGAC France urged more caution, suggesting that it is not proven that the maximum number of slots is too low, and therefore any increase should be limited; and later adds that it has no evidence of any requests under Article 2b(iii) and would have no objection to it being deleted. It also states that the status should not be granted to carriers belonging to larger groups which exceed the thresholds. In its response France also distinguishes between the twin objectives of promoting passenger variety (through new services and/or competition on existing routes) or encouraging efficient slot usage, a distinction repeated by the Polish Civil Aviation Office, which adds that the two aims would result in different solutions and therefore the desired objective of reform should be considered before proposing changes. Finally, ENAC also discusses raising the new entrant thresholds, but suggests that this would not help to resolve the issue of lack of carrier participation.

8.238 **Other:** DCCA and the French competition authority were the only respondents expressing support for the proposal, the latter suggesting increasing the new entrant threshold from 5 to 10%, to allow new carriers to be better able to compete with incumbents. Norton Rose cited potential benefits for competition, but also suggested that an increase could be counter-productive if creating or reinforcing an oligopolistic market. It concluded that the advantages were not sufficient to outweigh the disadvantages and that the rule should therefore not be amended, at least not without a detailed study. Danish Aviation believed that the current 50/50 criterion was fair, and the final respondent asserted that it should be the market and not the new entrant rule which should determine the pattern of services. The Airport Regions Conference suggested that it should be possible for the current 50% to be modified with local rules to increase competition.

Question 26.3 Please specify any impacts this would have on (a) the proportion of slots for which services would be scheduled; (b) the proportion of slots for which services had been scheduled that would actually be used; (c) the mix of traffic; (d) administrative costs; (e) competition; and (f) any other impacts.

8.239 **Airline and airline associations:** Few stakeholders provided a response to this question. As indicated in 26.2, the most frequently cited effects were on competition.

Only NetJets and one non-EU carrier specified impacts across the areas set out in the question, the latter predicting no change to any of (a) to (e), as it did not expect the change to initiate any new competition. NetJets predicted impacts on (a) and (b) in terms of the increase in the number of slots used by non-dominant carriers, and beneficial impacts on the mix of services for the same reason. Administrative costs were expected to be nil, and competition was predicted to be increased.

- 8.240 **Airports and airport associations:** The Manchester Airports Group predicted no impact at present at any of its airports.
- 8.241 **Slot coordinators:** The slot coordinators did not respond to this question
- 8.242 **Member States:** Only DGAC France provided further comment, suggesting that an amendment would enhance the attractiveness of new entrant status, increase competition and probably increase the ratio of scheduled vs. charter services (but that this change would be insignificant if amendments are minor). It did not identify any impact on slot utilisation, or any administrative costs.
- 8.243 **Other:** DCCA predicted improvements in the level of competition at congested airports.

C7.2: Replace definition of new entrant with priority for competing carriers

Question 27.1 What would be the advantages and disadvantages of amending the Regulation to replace the current new entrant rule with a rule giving priority to carriers other than the dominant carrier and its partner or alliance carriers?

- 8.244 **Airline and airline associations:** Most respondents (comprising AEA and 14 network airlines) were not in favour of the proposal, stressing that the Regulation is not designed to promote competition and that giving priority to new entrants is unfair and would disadvantage the home carrier and restrict its network development and growth. British Airways went on to emphasise the efficiency of network operations, which often contrasts with the less efficient use of slots by new entrant carriers; and that an additional tool to promote competition seems unnecessary given the already intense competition between carriers. IACA and two carriers simply believed the amendment to be unnecessary, either because sufficient competition exists already, or because coordinators would naturally deal with the issue as it arises in the normal allocation process. Four carriers were more supportive of the proposal, at least with some amendments. easyJet suggested adding a threshold (for example 50%) above which the allocation should weight against the largest carrier or alliance, although this should not be adopted without detailed analysis; and Condor believed that the focus should be on providing new routes rather than continually increasing competition on existing routes, as some have finite demand and competition could ultimately be disastrous. Others reiterated the need to conduct a detailed analysis of the existing rule before considering amendments.
- 8.245 **Airports and airport associations:** Only Manchester Airport was broadly in favour of the proposal, adding that this should include the freedom for priority to be given to applications from incumbents who are not the dominant carrier on any given route or at any given airport. Two airport authorities anticipated benefits but did not provide

detailed responses. ACI, BAA and the German Airports Association reiterated the limited success of the existing new entrant rule and consequently did not see the benefits in extending it further. Instead, they proposed other methods to improve the airport offer, for example supporting flights to key new destinations, frequency increases on under-served routes or considering aircraft size. They also highlighted the possibility of substituting the current EU-wide new entrant rule with local rules better tailored to local requirements. Fraport proposed a similar approach, namely replacing the existing rule with one which prioritises the efficient use of slots, with no consideration of the number of slots held by an airline or alliance. Schiphol suggested that giving priority to non-dominant carriers would not necessarily be beneficial, as dominance is not necessarily negative – rather it is the abuse of dominance which distorts competition.

- 8.246 **Slot coordinators:** Brussels Slot Coordination and Airport Coordination Norway anticipated potential increases in competition; the former adding that, at some airports, the dominant carrier has eliminated any kind of competition on its most important markets. EUACA was uncertain whether this approach would be in line with competition rules; and ACD and SCA were concerned about the complexity and associated administrative burden entailed in this process (although SCA went on to state that the results would be ‘interesting’ if combined with monetary mechanisms). COHOR cited practical issues in determining eligibility, and questioned whether the proposal was in line with the general need to encourage more efficient use of airport slots in a climate of increasing congestion.
- 8.247 **Member States:** Most respondents were not in favour of this proposal, most giving more weight to the associated practical issues rather than the benefits. DGAC Spain and another Member State emphasised the difficulty in determining which carrier was dominant, (the other Member State adding that any measure based on market share would vary between airports). The potential negative effects on alliance members and distortionary effects on competition were highlighted by DGAC France, the Swedish Transport Agency and another Member State. DGAC France also stated that any deletion of the new entrant definition would also risk concentration among the dominant carriers, and added that the purpose of the Regulation is not to create difficulties for major European operators.
- 8.248 The UK urged further research into the most effective approach, and highlighted the need to consider the effects beyond the level of the individual airport (as a carrier which may be dominant at one airport may be constrained by another incumbent elsewhere), and that defining ‘partner’ or ‘alliance’ was complex due to the range of commercial agreements in the market. The UK would have no difficulty with an arrangement whereby the percentage of slots over which new entrants have priority was reduced from 50% to say 20%, and giving priority over the remaining 30% to airlines other than the dominant carrier and its partners. Widening the definition in this way was believed to allow the development of more effective challengers, whilst still giving the opportunity for true new entrants to gain slots. Belgium and Italy were the more supportive States: the Belgian CAA stated simply that the measure could increase competition, and ENAC that the granting of ‘new entrant’ status to carriers with no link to the airport’s main users, would definitely improve competition. Finally, the remaining Member State to provide a response stated only that the

proposal should be investigated further.

- 8.249 **Other:** DCCA was most supportive, although emphasised the importance of combining this with some form of easier access for new entrants. EEA supported the view held by IATA and several carriers which was that no changes should be made until a study into the existing rule is undertaken. However, it did propose an alternative to the new entrant rule as being the setting of a cap on the percentage of slots held by the dominant carrier and its partners or other alliance members. The French competition authority also highlighted the importance of considering alliances as well as individual carriers. Norton Rose was concerned that this amendment could risk creating or reinforcing oligopoly at some airports, while an individual respondent asserted that the mechanism should not be used to manipulate the structure of carriers at an airport. Finally, a citizen stated in its response that auctioning slots would remove the need to consider the issue of new entrants.

Question 27.2 Please specify any impacts this would have on (a) the proportion of slots for which services would be scheduled; (b) the proportion of slots for which services had been scheduled that would actually be used; (c) the mix of traffic; (d) administrative costs; (e) competition; and (f) any other impacts.

- 8.250 **Airline and airline associations:** Reflecting the responses to 27.1, the most frequently anticipated impacts included the potential adverse effects on dominant carriers and the allocation of slots could be inefficient and sub-optimal. Conversely, another commonly cited impact was the potential increase in competition anticipated (although in some cases this related to the airlines' own proposals rather than the option suggested here). In common with similar previous questions, few respondents attempted to forecast impacts in all areas. One carrier forecast no change to (a), (b) or (d), changes in the mix of traffic arising from new destinations, and more competition. NetJets believed that the distribution of slots to non-dominant carriers would improve scheduling and utilisation, and would have a positive impact on the mix of traffic. It suggested that no administrative costs would be incurred, and that fair competition would be encouraged, reducing the risk of abuse by dominant carriers.
- 8.251 **Airports and airport associations:** Manchester Airports Group anticipated no effect at any of its airports, whereas Oslo Airport forecast possible increases in competition 'without too many implications'.
- 8.252 **Slot coordinators:** The slot coordinators did not respond to this question
- 8.253 **Member States:** Only DGAC France provided information additional to that provided in 27.1, and predicted that the proposal could result in less diverse traffic focusing on the most profitable destinations. It did not identify any administrative costs or impacts on slot utilisation.
- 8.254 **Other:** Only DCCA prepared a response, anticipating that the proposal would to a certain extent equalise competition between the dominant carrier and other competitors.

Option C8: Measures to improve slot utilisation

C8.1: Amend 80-20 rule

Question 28.1 How well has the current 80/20 rule ensured efficient use of capacity, and why? What is the current level of utilisation of slots? To what extent do you think that the 80/20 rule has led to perverse effects (e.g. babysitting, ghost flights)?

- 8.255 **Airline and airline associations:** Almost all respondents believed that the 80/20 rule had been effective, and allows sufficient flexibility to respond to unforeseen circumstances and to reduce the needless operation of unprofitable services. Only one (non-EU) carrier provided an indication of its level of slot utilisation, which was around 99%. Several carriers stated that slot utilisation at congested airports remains ‘at a very high level’; with British Airlines suggesting that this figure was well over 95%. Few respondents commented on perverse effects, although several stated explicitly that they did not have any concrete data or statistics on babysitting or ghost flights. One of the exceptions was easyJet, which refuted the suggestion that babysitting was a perverse effect, and suggested that this was an economic transaction similar to slot trading. One EU carrier suggested that any evidence for ghost flights was anecdotal, and that during the recent downturn it was able to comply with the rule with only a handful of flights operating at load factors of less than 25%. Finally, a perverse effect cited by NetJets was that the rule encouraged carriers to hold more slots than they require, and that this was not done in a very transparent way.
- 8.256 **Airports and airport associations:** Although these stakeholders were generally satisfied with the 80-20 rule there was a universal appetite for further revision, as discussed in 28.2 below. Manchester Airport provided a detailed response which highlighted the procedures set out in EUACA’s *Recommended Practices*, which allow carriers to cancel less than five weeks prior to the Slot Return Deadline without affecting their historic rights, meaning that airlines are ultimately only required to use 64% of the original series.
- 8.257 **Slot coordinators:** Where stated, all coordinators seemed satisfied with the 80-20 rule, although there was again an appetite for amendments. EUACA commented that the current level of utilisation is generally far higher than 80%.
- 8.258 **Member States:** Four States (Belgium, France, Spain and another Member State) believed that the current 80/20 rule had been effective in ensuring efficient use of capacity, and France added that utilisation rates were above 90% at its airports. ENAC suggested that the rule ‘could be better’, and went on to propose an increase in the threshold. The UK was the only respondent to comment on perverse effects. It stated that, although it is aware that these can occasionally arise, any amendment to the Regulation should be based on evidence.
- 8.259 **Other:** The ‘other’ stakeholders were more likely to highlight the rule’s disbenefits and perverse effects. The French competition authority believed that babysitting represented a way in which the rule had sometimes been used to prevent the entry of new carriers. Likewise, DCCA had the impression that the rule had led to babysitting, ghost flights and ‘similar behaviour’; and the Gatwick Area Conservation Campaign believed that the rule encouraged empty flights and unnecessary environmental damage. Norton Rose was one of the exceptions, stating that the rule seemed sufficient

for ensuring efficient long-term planning and scheduling and should not be changed. Danish Aviation stated simply that the rule had been working well to the best of its knowledge.

Question 28.2 What would be the advantages and disadvantages of amending the Regulation to increase the utilisation of slots required to obtain grandfather rights from 80%? What minimum level of utilisation should be required?

- 8.260 **Airline and airline associations:** As stated in 28.1 most respondents believed that the current parameters were sufficient and effective, and many of these carriers believed that any perceived deficiencies could be addressed by better application and enforcement of the existing rule. For example, a number of carriers expressed concern that increasing the threshold would remove the contingency required to respond to short-term reductions in demand or other unforeseen circumstances – British Airways suggested that increasing the utilisation ratio to 90 or 95% could result in carriers losing their slots from only two weather- or technical-related cancellations. On a similar note, ERA stated opposition to any increases in the threshold, unless accompanied by a widening of the circumstances under which cancellation are allowed. Cathay Pacific highlighted the additional administrative burden associated with having to follow up on failures to meet the more stringent requirements, and several carriers predicted that, rather than encouraging the return of a greater number of slots to the pool, increasing the threshold would force airlines to operate loss-making, empty flights for the sole purpose of maintaining their slots. Other disadvantages cited included the introduction of inconsistency with the standard procedures in place elsewhere, and the impracticability of introducing a higher threshold whilst still maintaining a 5-week minimum series length (as 10% would equal 0.5 weeks). However, some carriers were in favour: one non-EU carrier suggested that even an increase from 80 to 85% would make it more difficult for large airlines and alliances to hold unused historic slots and would therefore increase the return of slots to the pool for the use of new entrants. easyJet expressed some support for an amendment to 90% (it stated that it would not support an increase beyond 90%), although it added that not matching increases in the usage requirement with increases in the minimum series length would lead to instability, as the volatility in the industry would lead to more slots being withdrawn for reasons outside airlines' control. NetJets supported an increase to 95%, which it believed to be attainable and advantageous. British Airways suggested that inefficient use of slots could be better tackled by the Slot Performance Committees which have been established at major airports.
- 8.261 **Airports and airport associations:** As indicated in 28.1, many airports and associations were in favour of an increase in the usage threshold beyond the current 80%. One airport operator suggested an increase to 90%, and Gatwick and Zurich airports proposed an increase to either 90 or 95%. Gatwick Airport also highlighted a need for more effective enforcement, and suggested that this should include ensuring that slots cannot be transferred between carriers (i.e. to eliminate babysitting). Although they did not propose new thresholds, ACI Europe, Oslo Airport and another airport operator believed that an increase would be desirable in encouraging greater efficiency, higher return of slots to the pool and allowing airports to make better use of their infrastructure. BAA believed that the rule allowed carriers a large margin for non-use without being subject to sanctions, and suggested that the rule should apply to

all operators, and should mean that the allocated slot has to be flown 80% of the time. Fraport was more cautious, arguing that there is no evidence to suggest that the current 80% threshold led to the best use of scarce capacity, and that a study should be undertaken to establish the most effective ratio. Only Manchester and the German Airports Association were clearly opposed to the proposal; the latter preferring more stringent enforcement of the existing rules (potentially in tandem with a slot reservation fee), and Manchester suggesting that more effective solutions were set out in its responses to 28.1 and 29.1.

8.262 **Slot coordinators:** The coordinators expressed diverging views. Airport Coordination Norway and Brussels Slot Coordination were in favour of increases (the latter proposed 90%, but added that the threshold should be the same all over the world). ACD suggested that the current 80% was fair to both airports and operators, COHOR suggested that an increase would penalise new entrants which can find it difficult to reach 80%, and SCA suggested that extending the minimum series length would be more effective. EUACA did not express a clear view, and stated only that any change would not have a great impact given that actual utilisation rates are generally higher. Again, the need to ensure adherence with global practice was emphasised.

8.263 **Member States:** Italy was the most supportive State, proposing increasing the threshold to 90%, expecting that this would improve the utilisation of airport capacity and could increase the number of slots in the pool, therefore widening access to more carriers. Spain believed that this would increase the slot pool, but would encourage bad practices by carriers to maintain historic. The UK stated that it would support a revision only if there was firm evidence from relevant stakeholders that this would be beneficial. It was suggested by the UK and Belgium (which would not support a 'very small buffer') that rather than increasing the number of slots in the pool, any amendment could instead encourage the operation of unprofitable flights, placing further pressure on congested airports and potentially damaging the environment. The UK also indicated that, if the rules were tightened, it would not expect this to result in more temporary suspensions; and that these could in any case only be justified if applied on the basis of a full impact assessment. France was not opposed, but suggested that the high utilisation rates at its airports do not suggest that a revision to the Regulation (or at least one which increases the threshold above 90%) is required in this regard, although it did request the incorporation of a mechanism by which the rule can be suspended for exceptional circumstances without having to go through the Council. France reflected the views of the UK in adding that any modifications should be justified by a study and would probably relate to a change in the minimum series length. The main benefit was expected to be better use of slots, but it a potential undesirable effect was believed to be a proliferation of anti-economic 'preservation schemes'. One Member State did not support any change to the rule, and Belgium and another State appeared largely opposed, the latter believing that the focus should be on increasing capacity and not imposing restrictions and that European carriers would be unfairly penalised if the changes were not reflected in worldwide IATA guidance.

8.264 **Other:** There was also a divergence of views among this group of stakeholders. DCCA, the French competition authority and an individual citizen were in favour of increases, the former two respondents suggesting 90% and adding that this would improve utilisation and increase the number of slots available for use by newcomers.

However, it added that it should be ensured that sufficient flexibility remains to respond to seasonal fluctuations in demand. EEA was opposed on the grounds that an increase in the utilisation requirement would increase the risk of ghost flights and would threaten the flexibility of the express industry to quickly react to local developments, and Norton Rose emphasised the need to take into account the global nature of the current 80% (and added that a global change was neither feasible nor desirable), and highlighted the mathematical link between the usage threshold and the minimum series length; suggesting that these disadvantages were not sufficient to outweigh the potential advantages of more efficient use of airport infrastructure and more returns to the pool. The Gatwick Area Conservation Campaign believed that the current 80% already led to unnecessary environmental damage, which would be worsened by an increase. The Airport Regions Conference supported the amendment of the 80/20 rule, and suggested that abuses may be tackled if the threshold were raised. However, it also emphasised the need to recognise the varying circumstances of different types of airport.

Question 28.3 Please specify any impacts this would have on (a) the proportion of slots for which services would be scheduled; (b) the proportion of slots for which services had been scheduled that would actually be used; (c) the mix of traffic; (d) administrative costs; (e) competition; and (f) any other impacts.

- 8.265 **Airline and airline associations:** The impacts perceived by most carriers were negative and are discussed in 28.2. Only (2) carriers predicted impacts in the areas set out here. One (a non-EU carrier) predicted that (a) services would be scheduled for all slots held, (b) utilisation would increase, (c) that the freed slots would allow other operators / routes to enter the market, (d) no impact and (e) an increase in competition. NetJets predicted increases in (a), (b) and (c), the latter because it was believed that the increased threshold would open the slots to a wider group of carriers and thus lead to a greater mix of traffic. Administrative costs were expected to be nil, and it was anticipated that the enabling of more carriers to use the slots would improve competition. ERA suggested that if any increase in the threshold was accompanied by an amendment in the allowable circumstances the impact on all areas would be nonexistent, and Air France believed that the impact would be minimal because utilisation is already very high. One network carrier suggested that the proposal could further disadvantage EU carriers in their home base, as they would only be able to reacquire 50% of any slots lost, and five other network carriers considered the proposal as an undermining of the grandfather rights principle and an attempt to withdraw slots from carriers for redistribution.
- 8.266 **Airports and airport associations:** Manchester Airport anticipated a reduction in babysitting and ghost flights, but added that babysitting can be advantageous in that it has resulted in regional airports gaining off-season passenger services to Heathrow which might not otherwise have been provided.
- 8.267 **Slot coordinators:** The slot coordinators did not respond to this question
- 8.268 **Member States:** The Member States did not provide relevant responses to this question
- 8.269 **Other:** DCCA predicted easier access for non-incumbent carriers with consequent

benefits for competition.

C8.2: Increase minimum length of a series of slots

Question 29.1 What would be the advantages and disadvantages of amending the Regulation to increase the minimum length of a series of slots beyond the current level (5 slots)? What should the minimum be, and should this be determined EU-wide or on an airport-by-airport basis?

- 8.270 **Airline and airline associations:** A number of stakeholders repeated that no changes should be made without having first conducted detailed analysis at an airport-by-airport level. British Airways added that the minimum series length should be consistent with the use or lose it percentage. Half of respondents were entirely opposed, including Ryanair because it had not found securing of slots to be a problem. IACA and an EU carrier provided a lengthy response explaining the rationale for the current five weeks in detail, including need to cater for various seasonal trends, including the 10-week difference in length between the summer and winter seasons, which means that 5-week series can be useful when coordinating between northern and southern hemispheres (thus short series may be at the beginning or end of the season rather than the beginning), and allows the flexibility to schedule around holiday periods and natural breaks. Other potential disadvantages were similar to those predicted from increasing the minimum usage threshold, namely that airlines could be forced to operate services which are not commercially viable. Three respondents supported the extension of the minimum series length beyond the existing five weeks, although ELFAA believed that, whilst desirable, this change does not justify revising the Regulation. This change was anticipated to reduce this incidence of fragmentation with its accompanying issues, including the cost and complexity of overseeing slot holdings and the limitations posed on use of slots for shoulder peak services. Of the three carriers supporting an extension, only easyJet and Thai Airways proposed a new minimum, stating that this should be 10 weeks. The only respondent to suggest a reduction was NetJets, which proposed a minimum of 4 weeks.
- 8.271 **Airports and airport associations:** Most airports supported an extension of the minimum series length. Schiphol gave the fullest description of the advantages, expecting a more efficient use of capacity at capacity constrained airports where most carriers conduct year-round operations. Oslo proposed 10 weeks (to be implemented by local rules), Gatwick suggested 15 weeks (to be implemented either on an EU-wide basis or through local rules); and ACI Europe, BAA and Manchester suggested an extension to 15 consecutive weeks in summer and 10 weeks in winter. Manchester Airport also advocated extending the rule to cover the number of weeks in a season in which a slot must be operated, i.e. closing the 'loophole' which allows carriers to cancel up to five weeks before the Slot Return Deadline. Fraport and the German Airports Association indicated that the length of the series had not caused problems there, and Fraport added that it expected the issue to be more significant at holiday airports. One other airport operator expressed reservations, stating that this would create an additional barrier to entry and make the allocation of shorter series more difficult.
- 8.272 **Slot coordinators:** Brussels Slot Coordination anticipated that an increase in the minimum series would improve the stability or schedules for the customer, and that it

would increase the number of slots returned to the pool and therefore opportunities for carriers to develop their services. EUACA also supported an extension to 10 weeks in winter and 15 in the summer, but suggested that this could be accompanied by local rules where necessary (it was suggested that some Greek islands have a summer season of only 6-8 weeks). The need for some kind of differentiation between leisure and non-leisure airports was supported by COHOR, although it did not provide suggestions for new minimum levels. Airport Coordination Norway also favoured an extension, but to 8-10 weeks and potentially retaining the 5 week minimum in winter. ACD believed that the current 5 weeks was fair for both carriers and airports.

8.273 **Member States:** Most States provided balanced responses, emphasising both advantages and disadvantages (only Italy was clearly in favour). Advantages were cited as increasing the size of the pool, slot utilisation and competition (as slots will be less attractive to small, less viable carriers); and reducing fragmentation of slot series. Disadvantages included the favouring of carriers with long series over BA/GA and charter operators and carriers operating empty flights to retain historic. Belgium and the UK stressed that the rule should not be changed without evidence that this would be beneficial (the UK adding that it would support a change if this was the case). It was stated by France and another Member State that any solution would have to be determined at the European level in order to ensure consistency, whereas the UK suggested allowing airports the flexibility to increase the threshold via local rules. DGAC France proposed consideration of a series length of 10 weeks or less, and ENAC proposed at least 7.

8.274 **Other:** Norton Rose provided the most detailed response, which echoed the statements made by some of the airlines regarding the mismatch between the summer and winter seasons and the need to ensure uniformity worldwide, therefore concluding that increasing the current minimum would not deliver significant advantages. EEA supported an increase from 5 to 8 weeks, and DCCA was broadly supportive but did not suggest a minimum. However, it also highlighted that the proposal could be disadvantageous from a competitive perspective, as it extends the undesirable concept of grandfather rights.

Question 29.2 Please specify any impacts this would have on (a) the proportion of slots for which services would be scheduled; (b) the proportion of slots for which services had been scheduled that would actually be used; (c) the mix of traffic; (d) administrative costs; (e) competition; and (f) any other impacts.

8.275 **Airline and airline associations:** Again, a number of carriers did not discuss the impacts of the proposal, reiterated a need for a detailed study, or suggested that the impact would be to force carriers to run empty flights in order to maintain their slot portfolio. Of the remainder, one non-EU carrier forecast (a) a reduction in the proportion of slots for which services would be scheduled, (b) not less than 80%, (c) a favouring of scheduled traffic, (d) lower costs and (e) 'predictable' competition. NetJets cited impacts in some of these areas, predicting (c) limitations on the mix of traffic, as this would be advantageous only for network carriers, (d) no significant administrative costs and (e) negative effects on competition as already dominant carriers would benefit from the proposal. easyJet anticipated that competition would increase, as extra services would be provided during shoulder and off-peak months,

and five network carriers could anticipate only increased costs, four adding that business / general aviation would suffer as fewer pool slots become available.

- 8.276 **Airports and airport associations:** ACI Europe, BAA and Manchester believed that the main benefit would be to encourage the early handback of slots by charter carriers operating short season routes, particularly if these were peak hour slots which could be used effectively by other carriers; Oslo Airport that there would be less flexibility for holiday airlines.
- 8.277 **Slot coordinators:** The slot coordinators did not respond to this question
- 8.278 **Member States:** The Member States did not respond to this question
- 8.279 **Other:** Only DCCA commented on the impacts, predicting positive impacts on competition as it would be harder to obtain grandfather rights, possibly increasing slot availability at congested airports.

Question 30: What further role do you think the coordinators should have in the context of SESII? How do you think the slot allocation system and SESII should interact? What mechanism should be used to resolve inconsistencies between flight plans and airports slots? Could the Network Manager use or influence the slot allocation system? How? Are there are any additional issues with slot allocation arising from SESII which we should be aware of?

- 8.280 **Airlines and airline associations:** AEA, IATA and several airlines said that coordinators were not in a position to provide anything beyond local slot information: in particular they are not in a position to provide information on airline schedules as they only have access to local information, and therefore they could not assist the network manager in planning ATFM. They argued that only airlines could provide this information; in addition, they said that the network manager should not have any say in slot allocation. Air France said that slot coordination and SES were separate issues and there would always be inconsistency between AFTM slots and airport slots. It also said that this issue had already been discussed in the framework of the Capacity Observatory, and there was no agreement that any major change was required. IACA said that there was no link between slot allocation and SES, and slot coordinators should not play any role. easyJet said that flight plans needed to be consistent with slots but that they should reflect the natural volatility of the industry, and therefore it was not possible to reject flight plans where a flight was off slot. Some other airlines said it was too early to comment as the shape of SESII was not clear.
- 8.281 **Airports and airport associations:** ACI said that coordinators could not provide any service in SESII that could not adequately be provided by other stakeholders. It also said that the network manager should neither influence the slot allocation process nor the declaration of capacity parameters. BAA and the German Airports Association said that coordinators should not undertake a greater operational role: capacity could vary on the day but there were established procedures to deal with this between air carriers, airports and air traffic management. However, they agreed that coordinators would have to work closely with the network manager to make best use of available capacity. Manchester and Zurich Airports agreed that the network manager should not have any role in slot allocation; its role should be limited to safety. Gatwick airport

said that CFMU should ensure that it does not allocate capacity to flights that do not have airport slots, but that it is already very rare that this happens. However, Oslo airport said that the coordinators should play a significant role in SESII, providing information and ensuring consistency.

- 8.282 **Slot coordinators:** EUACA said that the main role for coordinators in SESII could be to provide information to the network manager and other entities that needed it, potentially covering non-coordinated airports as well as coordinated airports. It also considered that in exceptional circumstances, such as the volcanic ash cloud, there should be a mechanism to allow emergency intervention at non-coordinated airports. The French coordinator also argued that coordinators could collect information, covering all airports, which would assist the network manager in planning the system; however, it considered that the network manager should not impose any constraints on scheduling. Brussels Slot Coordination also said that the coordinator should play a key role in SESII by providing information. Airport Coordination Norway agreed that airport and airspace slots should be as much in accordance with each other as possible.
- 8.283 **Member States:** Spain said that the coordinators should have a key role in circumstances such as the volcano eruption, but that interaction between coordinators and the network manager in the operational phase would be difficult as coordinators are focussed on planning. It thought that there could be benefits in greater consistency between the Implementing Rules for the network manager function and the slot Regulation, for example by considering the route planned at the time the airport slot was granted. Any process for checking flight plans against airport slots should involve the coordinator and distinguish between no slot and off slot operations; the latter routinely arise for operational reasons. Belgium said that automated systems at CFMU-level should help prevent flights taking place without a valid airport slot, and Sweden also said that it supported more cooperation between the coordinator and ATFM.
- 8.284 However, another Member State said that it was not convinced that closer interaction of slot coordination and SESII would lead to better use of capacity. France said that coordinators should not have an expanded role in SESII and there was already a mechanism for ensuring flight plans were not accepted if there was no airport slot; however coordinators could provide information to the network manager at the slot return date to help it plan capacity. The UK noted that the Regulation already allows for flight plans to be rejected if the flight does not have an airport slot and therefore no change to the Regulation was required; at most an implementation mechanism might be required.
- 8.285 **Other stakeholders:** Norton Rose said that Article 14 already addresses slot abuse and no change to the Regulation was required. PANSAs said that in the case of special events the network manager could influence slot allocation, and that it could provide slot coordinators with information on airspace capacity, but that slot allocations and timings should generally be decided at local level. Danish Aviation said that coordinators should not have a role in SESII other than providing information to air traffic management. A citizen said that aerodrome planning and capacity use should be an integral part of flow management.

Question 31: Are there any other issues with the operation of the current

Regulation to which you would like to draw our attention? Please give details

- 8.286 **Airlines and airline associations:** easyJet suggested that the Commission should lead development of guidance on the application of the Regulation, to be applied by coordinators; this should cover any limitations on the changes that can be made to new entrant slots, definition of when changes can be made to ad hoc slots, and definitions of slot sharing to form series. It also suggested there should be clarity about whether the 80-20 rule would be suspended again in future. ERA and Air Berlin emphasised that in their view a change to the Regulation was not required; Condor said that only minor changes should be made, for example, to the new entrant rule. Air France and others emphasised that the main priority should be provision of sufficient airport capacity and that revisions to the Regulation would not address this problem.
- 8.287 Other airlines said that it was important that the Regulation was consistent with the IATA World Scheduling Guidelines, to ensure the proper functioning of the global airline scheduling system, and to avoid retaliation against EU airlines. Other airlines also said that the Commission should ensure that the Regulation is properly implemented by all Member States and make sure that local rules are consistent with the Regulation. Another airline said that the slot return deadline could be brought forward in order to give more time for planning. Airlines also emphasised that proper implementation of the existing Regulation would solve most issues with the system: in particular, the requirement that a proper capacity analysis be undertaken before an airport is designated as fully coordinated, as they said that some airports had been designated fully coordinated without this being necessary.
- 8.288 **Airports and airport associations:** Fraport said that Article 14 was too restrictive with relation to imposition of sanctions, as it only allowed sanctions for repeated *and* intentional abuse which caused prejudice to airport operations; sanctions should be possible for repeated or intentional abuse. The German Airport Association said that airports should have an enhanced rule in definition of coordination parameters and allocation of slots.
- 8.289 **Slot coordinators:** EUACA said that there could also be problems at level 2 airports and that, in the context of the Single European Sky, there could be consideration given to only having level 1 and level 3 airports.
- 8.290 **Member States:** Belgium said that the Regulation should be more specific about protection for coordinators by Member States in the event of complaints. The UK suggested two relatively minor changes, to remove the reference to ‘airport system’ and to amend Article 9 to make clear that States can only reserve slots for PSO services at airports on their territory. France said that revisions to the Regulation should not disadvantage EU carriers in competition with non-EU carriers, which it considered that many of the proposals would do. Italy said that airlines should not be permitted to use the slots of other carriers, even when they operated a joint service, as this gives an unfair advantage to alliances.
- 8.291 **Other stakeholders:** The European Express Association said that a balance between passenger and cargo operators should be achieved; cargo operators are critical to world trade. PANSA, the Polish air navigation service provider, said that the Implementing Rules for the Network Manager Function should apply to slot

coordinators (for planning purposes not for daily operations) and this could be critical for planning of special events such as major sporting events. The Aviation Environment Federation reiterated that the priority should be measures which ensured better use of existing capacity, rather than capacity expansion.

9. OPTION AND PROBLEM DEFINITION

Introduction

- 9.1 This section sets out a definition of the problem that is to be addressed, in accordance with the Commission's Impact Assessment Guidance. It also sets out a definition of each of the policy options which were evaluated for the study.

Problem definition

- 9.2 In this chapter we summarise the problems that could be addressed through revision to the Regulation. This is based on examination of the evidence available, described in sections 3-5 of this report.

Who is impacted?

- 9.3 The Regulation impacts on a number of stakeholders. The most significant impact is on airlines and hence on their customers, passengers and freight forwarders. The Regulation also impacts airport management companies, and may have some impacts on the communities that live around airports. The most significant impacts are on the airlines that utilise the most congested airports, at which demand significantly exceeds capacity, particularly London Heathrow and Gatwick, Paris Orly, Frankfurt and Düsseldorf where demand for slots exceeds capacity throughout the day. The Regulation has more limited impacts at other airports.

- 9.4 In addition, the Regulation has some impacts on Member States, which are responsible for ensuring that it is implemented properly, and to the extent that it influences which types of flight can operate at congested airports, impacts on the wider economy.

What are the issues that require action?

- 9.5 This study has identified a number of areas which could be addressed with the operation of the Regulation:

- transparency of slot information could be improved in some Member States;
- in some Member States, aspects of how the coordination system is structured could be interpreted to limit the independence of the coordinator;
- as the Regulation gives scheduled and programmed non-scheduled flights preference over ad hoc operations, it disadvantages business and general aviation (although this is not necessarily inconsistent with efficient use of scarce capacity);
- there is some inconsistency in the slot monitoring and enforcement system in different States, although most stakeholders believe it has generally been effective; and
- although the Regulation allows for *ex ante* monitoring of the consistency of flight plans and airport slots, this only happens regularly in three Member States.

- 9.6 This study has also identified a number of areas in which the results of the Regulation may not be consistent with the policy objectives defined for the study:

- at some airports, such as Paris Orly and Düsseldorf, the allocation of slots which has arisen through the administrative slot allocation mechanism does not appear to

be consistent with an economically efficient use of capacity (which would usually imply use of larger aircraft where the number of movements is restricted, to maximise the number of passengers that can travel within limited capacity);

- although secondary trading has been successful at the London airports in improving capacity utilisation and the liquidity of the slot market, there is still little secondary trading at other EU airports, and trading is not transparent;
- the mobility (turnover) of slots is low at many congested airports and it is very difficult for entrants to grow operations at congested airports, although this has not stopped the substantial overall growth of new airlines such as Ryanair and easyJet;
- the new entrant rule has resulted in fragmentation of the schedule and has not been successful at promoting competition;
- even at some airports at which demand for slots exceeds supply, over 10% of slots allocated are not utilised, which indicates that the utilisation of scarce capacity is inefficient; and
- at some airports, late handback of slots and overbidding reduces the effective capacity that can be utilised.

9.7 However, it should be noted that many stakeholders, particularly airlines, believe that there are no issues that require action, or that the only action that is required is more effective implementation of the existing Regulation by Member States, assisted and encouraged where appropriate by the Commission. Many other stakeholders consider that only relatively minor changes are required.

What are the drivers of the problem?

9.8 The key drivers of the problem are:

- Lack of clarity in some elements of the Regulation: In some respects, the Regulation specifies general principles (such as functional independence of the coordinator) without specifying in detail how this should be achieved. It is less detailed than, for example, the IATA World Scheduling Guidelines. In particular, the key issue of secondary trading is left undefined. This means it is interpreted differently in different Member States.
- Changes in the air transport market since the Regulation was introduced: In particular, there may be increasing airport congestion, as it may not be possible to expand capacity as fast as demand at all airports. This means that the Regulation has more impact, and will have more impact in the future, than it did at the time that it was introduced.
- In some Member States, there is a failure to implement some parts of the Regulation effectively: In addition, as the Regulation is not very specific in some respects, it is difficult for the Commission and Member States to enforce.

How will the issues evolve?

9.9 The economic downturn has significantly impacted volumes of air traffic: as discussed in section 3 above, the number of flights in the EU in 2010 is estimated to be around 14% lower than it would have been if it had continued to grow at the pre-2008 rate, and this has eased capacity pressures at many airports. In addition, one of the most congested airports plans a significant capacity expansion, and small increases are planned at two others:

- the new runway and terminal at Frankfurt airport will increase capacity from 83 to 126 movements per hour;
- Düsseldorf airport expects that its operating permit will be amended to allow it to increase the number of flights; and
- Gatwick airport expects to be able to increase the number of movements per hour by 2-3 on the existing runway, through improved operational procedures.

9.10 However, traffic has already started to increase again. In the period covered by the impact assessment, it is likely that the number of flights at EU airports will increase by 2-2.5% per year. The growth of low cost airlines and new direct services avoiding major hubs means that demand at the biggest airports is likely to grow more slowly, but it is still likely to increase by 1.5-2% per year.

9.11 Although capacity is expected to be expanded at Düsseldorf and (to a lesser extent) Gatwick, this will not be sufficient to accommodate demand, and at the other three most congested airports (Heathrow, Orly and Linate), no capacity expansion is expected. Congestion will also worsen at some other airports including Paris CDG and Amsterdam Schiphol. Therefore slot restrictions will continue to be a significant issue in the European air transport sector, and despite the downturn in traffic, will become a more serious issue in the medium to long term.

Definition of options

9.12 An initial definition was developed for the Inception Report and the Stakeholder Consultation Document but this expands and where necessary revises this, taking into account the analysis undertaken and the stakeholder interviews undertaken for the study. For each option this section sets out:

- what the option would seek to achieve;
- what changes to the Regulation would be required; and
- whether there are other related issues which would need to be addressed (such as changes to other legislation).

9.13 All options which have been considered for the study are included in this table. However, more detail on the definition is provided for those options where it was concluded at the initial assessment stage that the option showed potential benefits and therefore that the option should be analysed in detail. Where an option has not been defined further because it was decided not to progress the option, the table shows that the option was not shortlisted.

TABLE 9.1 DEFINITION OF POLICY OPTIONS

Option	Sub-option	Actions needed	Notes and other issues to consider
B1: Strengthen the independence of the coordinator	B1.1: Coordinator to be organisationally, as well as functionally, separate	Amend Article 4(2) of the Regulation to refer to organisational separation instead of functional separation	
	B1.2: Amend the Regulation to specify that the coordinator must keep accounts and budgets separate from any party having an interest in its activities	Add new sub-clause in Article 4 to clarify that the coordinator should keep separate accounts.	
	B1.3: Limit the types of adjacent activities that a coordinator may develop, in order to avoid any possible influence on the coordination activity.	Add new sub-clause in Article 4 to prohibit other activities that a coordinator can develop.	
	B1.4: Member States to have an obligation to ensure that coordinators are adequately funded	Amend Article 4(2) of the Regulation to state that Member States have an obligation to ensure that the coordinator ultimately has sufficient funds available to undertake the activities required by the Regulation.	
	B1.5: Amend the Regulation to specify that financing of the coordinator must be shared between airlines and airports	Amend Article 4(2) to require that the coordinator should not be financed by a single party and that financing should be shared between airlines and airports; division between airports should be dependent on cost of coordination, and division between airlines should be dependent on number of slots operated.	Note, ideally division between airlines should be based on number of slots allocated, but this might raise issues of consistency with bilateral Air Services Agreements as could be a fee for a service not provided.
B2: Increase requirements on provision of data to stakeholders	B2.1: Require coordinators to make historic schedule data available through placing it in an online database	Amend Article 4(8) to specify that the coordinator must place historic schedule data in an online database	
	B2.2: Require coordinators to publish online local rules, capacity parameters, and a summary of slot requests, allocations and utilisation; and to provide an annual report on their	Add new Article after 4(8) to specify that the coordinator must publish on the internet and keep up to date all local rules, capacity parameters; must, at the start of each season, publish a summary of slot requests and allocations for each coordinated airport; and at the end of the season, publish a	

	activities.	summary of slots actually operated. Delete the words 'on request' from Article 4(6)	
	B2.3: Require coordinators to keep data for 5 years and provide to interested parties	Amend Article 4(8) to specify that coordinators must make available 5 years of historic data	
B3: Address misuse of slots and late handback	B3.1: Introduce a slot reservation fee as an advanced payment of the airport charge, which would not be refundable if the carrier did not operate the service or if the slot was handed back too late to be allocated to another carrier. This would be offset by a reduction in airport charges so as to be financially neutral for airports.	Slot reservation fees would be airport charges and therefore the implementation would have to be undertaken by Member States taking into account their own national systems of airport charges. In particular, for example, the systems of economic regulation applying at many large airports would impact how these could be implemented. However, the Regulation could be amended to state that nothing in the Regulation should prevent revenue neutral slot reservation fees being introduced by an airport managing body, after consultation with the coordinator and the coordination committee; and that the coordinator shall provide the information to the airport necessary to facilitate collection of these fees.	Consider risk of legal challenge and in particular compatibility with bilateral agreements. Also consider if Directive 2009/12/EC on airport charges would need to be amended.
	B3.2: Introduce penalties for late handback of slots	Amend Article 14(5) to state that 'Member States shall ensure that effective, proportionate and dissuasive sanctions or equivalent measures are available to deal with: (a) [slot misuse]; (b) Repeated or intentional delay in returning slots to the coordinator when the air carrier did not plan to use the slots; (c) Repeatedly or intentionally delaying the return of slots to the coordinator for reallocation to other air carriers beyond 15 January (for the summer season) and 15 August (for the winter season)'	
	B3.3: Strengthen powers of coordinator in enforcement	Amend Article 14(2) to state that the coordinator shall withdraw a series of slots from an airline and place the series in the pool if it does not have other necessary permissions to operate, such as traffic rights. Delete the reference to 'cause prejudice to airport or air traffic operations' from both Articles 14(4) and 14(5).	

		<p>Amend Article 14(5) to:</p> <ul style="list-style-type: none"> • explicitly cover operations without a slot and failure to cancel a slot that the carrier does not intend to use • specify that sanctions must be available for failure to provide information required by Article 7(1), or for providing false or misleading information • refer to 'repeated or intentional' misuse instead of 'repeated and intentional' • specify that if the coordinator is not the body responsible for administration of sanctions, the coordinator should be informed of the outcome of any sanction process including any sanction imposed <p>Add new clause Article 14(6)(c) to give the coordinator the right to withdraw a series of slots from an air carrier, having heard the air carrier, if it cannot demonstrate that it intends to use them.</p>	
B4: Clarify definition and rights of general/business aviation	B4.1: Member States, after consultation, to have the right to reserve a proportion of slots for business or general aviation for a period of up to 5 years	Add new Article after Article 9a allowing Member States, after consultation with the airport managing body and the coordination committee, the right to reserve a proportion of slots for business or general aviation for a period of up to 5 years.	Consider whether this is necessary to achieve this outcome – some States already do this through local rules or capacity parameters
	B4.2: Amend Regulation to specify that business aviation should have the right to slots where it runs programmed non-scheduled services	Amend 2(f)(i) to replace “when they operate according to a schedule” with “when they operate a series of slots”	
B5: Clarify the role of the airport managing body as responsible for control of the activities of all operators present at the airport.	B5.1: Amend Article 14(1) to give the airport managing body the right to refuse to allow an aircraft to land if it does not have a slot (except in an emergency).	Option not shortlisted	
	B5.2: Improve operation of Article 14(1) by requiring consultation with coordinators and requiring coordinators	Amend Article 14(1) to add “After consultation with the coordinator...” and add “If requested, coordinators shall provide the Air Traffic Management authorities with information	

	to provide information to ATM authorities if requested.	on allocated airport slots”	
B6: Support Single European Sky II	B6.1: Slot coordinators to provide slot/schedule data to the Network Manager, including for level 1 airports, where designated by the Network Manager	Add definition to Article 2 “ ‘network airport’ means an airport designated as such by the Network Manager” Add to Article 7(1) “Air carriers operating or intending to operate at a network , schedules facilitated or coordinated airport shall...”	
B7: Improve regional accessibility	B7.1: Allow local/regional government to buy slots on secondary market, to protect regional services	Option not shortlisted	
	B7.2: Allow governments to reserve slots for non-PSO regional services	Option not shortlisted	
C1: Define ownership of slots	C1.1 Amend the Regulation to explicitly define slots as licenses to use public property	Option not shortlisted	
C2: Define an EU regime for secondary trading	C2.1: Allow secondary trading at all EU airports	Add new Article 8a(1)(d) stating [slots may be transferred] ‘either for a limited period or indefinitely between air carriers, with or without monetary or other considerations’.	Note an alternative would be to replace 8a(1)(b) and (c) with a single statement that slots may be exchanged or transferred; however it is recommended to retain a distinction between trades and exchanges so that any regulatory measures relating to secondary trading (options C2.2-2.6 below) only apply to trades, not other exchanges or transfers within owning groups.
	C2.2: Introduce restrictions on the proportion of slots which may be held by an incumbent	Amend Article 8a(2)(c) to refer to ‘within the scope of paragraph 3 or 4’ Add Article 8a(4) to specify that ‘Slots shall not be transferred to an air carrier if this would result in its share of slots at the airport on the day concerned exceeding [proportion]’	
	C2.3: Introduce a prohibition on anti-	Add new Article 8a(4) to specify that ‘Transfers and exchanges of slots may not be subject to any condition or covenant which	

	competitive restrictive covenants	limits the potential for the air carrier acquiring a slot to compete with the carrier giving up the slot, or any other carrier. In the case of time-limited transfers or exchanges of slots, this shall not prevent conditions being placed on changes of use of a slot which ensure that an equivalent slot can be returned to the original holder of the slot at the end of the transfer period.'	
	<p>C2.4: To require a degree of post-trade transparency. Options considered are:</p> <ul style="list-style-type: none"> • certain information should be disclosed to the coordinator including possibly the price and other conditions • the coordinator to publish details of trades including slot timings and the vendor and purchaser's identity • the coordinator to publish an aggregated summary of price information • the coordinator to publish detailed price information 	<p>Add new Article 8(4) to specify that where slots are transferred between air carriers under Article 8a(1)(d):</p> <ul style="list-style-type: none"> • the air carriers concerned will notify the coordinator of all conditions to which the transfer is subject (possibly including details of any associated payment); • at the end of each season, the coordinator shall publish how many transfers of slots have occurred in the season, the timings of the slots, the identities of the air carriers concerned and whether the transfer is temporary or permanent; • on request, the coordinator will make this information available to the Member State in which the airport is located, or the Commission; and • <i>either</i> the coordinator shall also publish an aggregated summary of monetary and other conditions attached to payments; or • the coordinator shall publish the individual prices for transactions. 	
	C2.5: Coordinator to maintain and make publicly available a list of requests for slots for airlines wishing to purchase slots, and a list of slots which are available to give up, from airlines wishing to sell	Add a new paragraph at the end of Article 8a to state that the coordinator should ensure that there is a publicly available forum on which air carriers may (voluntarily) disclose details of slots they wish to give up in return for a payment, or details of slots they would be willing to purchase.	
	C2.6: Centralised auctions of slots returned to the pool, with part of the revenue going to the carrier which	Option not shortlisted	

	released the slot but without it being able to determine which carrier obtained the slot		
C3/C4: Auctions for available slots (without withdrawal of slots)	Member States to have the option of introducing auctions for slots where capacity at an airport is expanded or significant capacity becomes available.	<p>Add a new Article which states that, where significant new capacity is created at an airport or a significant number of pool slots become available, a Member State may decide to allocate these slots through an auction process.</p> <p>The decision to hold an auction would be subject to consultation with the airport managing body and the coordination committee. The design of the auction mechanism would also be subject to approval by the Commission.</p> <p>When an auction is used, Article 10(6) (priority to new entrants) will not apply.</p>	
C5: Withdrawal of slots and auctions	Withdraw and auction 10% of slots held due to grandfather rights each year, to apply at the most congested airports only	<p>Add a new Article stating that at any coordinated airport where:</p> <ul style="list-style-type: none"> the number of slots allocated from the pool was less than 2% of the number of slots allocated on the basis of historic precedence, on average over four scheduling periods; and initial requests for slots exceed capacity for at least 8 hours per day; and it is not expected within the next 3 years that capacity will be expanded sufficiently to accommodate demand <p>historic preference shall be subject to a time limit, and 10% of slots shall be withdrawn by the coordinator and auctioned every year. Slots that are allocated in the auction will be allocated for 10 years, and subject to this may be traded without restriction between air carriers.</p> <p>The State concerned would design the auction mechanism but this would be subject to approval by the Commission.</p> <p>At these airports, Article 10(6) (priority to new entrants) will not apply.</p>	Consider consistency with bilateral Air Services Agreements, particularly the EU-US agreement.
C6: Introduce	Amend Regulation to allow wider	Option not shortlisted	

<p>alternative criteria for slot allocation through increased flexibility of local rules</p>	<p>criteria than efficient use of capacity (such as environmental or regional considerations) to be employed when undertaking primary allocation of slots. The precise criteria would be decided by the coordination committees at individual airports, subject to some requirements that criteria could not be unfairly discriminatory between carriers. The coordination committee could be expanded and in particular voting rights given to regional or local government representatives.</p>		
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<p>C7.1: Avoid dispersion of slot portfolio due to existing rule on new entrants</p>	<p>In order to avoid fragmentation of the schedule by allocation of slots to a large number of small carriers, and to increase the likelihood of sustainable competition being created, amend the definition of new entrant so that:</p> <ul style="list-style-type: none"> • the number of frequencies that can be operated by a new entrant on an intra-EU route is increased to be equivalent to 4 rotations, to offer more credible competition with incumbent airlines • new entrant priority can also be obtained for a specific number of frequencies on non-EU routes. up to 2 rotations per day • the reference to regional airports is deleted, as this is never used and in any case is superfluous; and regional airport is not defined • delete automatic/prioritised classification as a new entrant for carriers with less than 5 slots • delete reference to airport systems • apply the new entrant slot limit at the level of airline owning groups, rather than individual air carriers • prevent airlines from obtaining new entrant slots if they have transferred slots to another carrier, or had slots withdrawn by the coordinator 	<p>Amend definition of new entrant in Article 2(b) so that a new entrant is defined as follows:</p> <p>“(i) an air carrier requesting a series of slots for a non-stop scheduled passenger service between two EU airports where at most two other air carriers operate the same non-stop scheduled service between these airports or airport systems on that day, where, if the air carrier's request were accepted, the air carrier would nonetheless hold fewer than nine slots at that airport on that day for that non-stop service, or</p> <p>(ii) an air carrier requesting a series of slots for a non-stop scheduled passenger service to a non-EU airport where at most two other air carriers operate the same non-stop scheduled service between these airports or airport systems on that day, where, if the air carrier's request were accepted, the air carrier would nonetheless hold fewer than five slots at that airport on that day for that non-stop service.</p> <p>An air carrier shall not be considered to be a new entrant if in total it, its parent and subsidiary companies, any other subsidiaries of the same parent company[, and other air carriers with which it has formed a joint venture,] hold more than 10% of the slots at that airport on that day.</p> <p>An air carrier shall not be considered to be a new entrant if it has transferred slots at the airport to another carrier within the last 2 seasons.”</p> <p>In addition amend Article 10(6) to state ‘At least 50% of these slots shall first be allocated...’, and delete the second paragraph (“Among requests from new entrants, preference shall be given to air carriers qualifying for new entrant status under both Article 2(b)(i) and (ii) or Article 2(b)(i) and (iii).”)</p> <p>In addition, if it is decided that there should be a prohibition on joint venture partners of large carriers obtaining slots, add a new definition Article 2(n): ‘Joint venture shall mean an agreement between two or more air carriers to share revenue or operating costs on a route or routes. Air carriers shall be responsible for notifying joint ventures to the coordinator’.</p>	
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	C7.2: Remove new entrant rule and replace with rule giving priority to slot requests from carriers other than the dominant carrier and its partners where these have in total 40% of the slots.	Option not shortlisted	
C8: Increase slot utilisation	C8.1: Amend the 80-20 rule to 85-15 (option C8.1a) or 90-10 (option C8.1b)	Amend references to 80% usage in Articles 8(2), 10(2), 10(4), 14(6)(a) to 85% or 90% Amend references to 20% in 14(6)(b) to 15% or 10%	Should be tested in conjunction with an increase to the minimum length of a series. May also be necessary to define whether 'filling in' of gaps in series is permitted.
	C8.2: Increase the length of a series of slots to 15 (summer) and 10 (winter), except where a local rule defines a shorter minimum series length (but at least 5)	Amend Article 2(k) to refer to 'fifteen slots (in the summer season) and ten slots (in the winter season)' and to add at end 'The minimum length of a series of slots may be reduced to five by a local guideline, introduced in accordance Article 8(5)'	

10. IMPACT ASSESSMENT: OPTIONS FOR AMENDMENT TO THE REGULATION

Introduction

- 10.1 This section and section 11 together provide the qualitative and quantitative assessment of the impacts of each of the options and sub-options for revisions to the Regulation, as defined in the Inception Report and in the public consultation, as amended where necessary to take into account initial analysis of the options and comments from the Commission on this initial analysis.
- 10.2 A quantitative assessment has been undertaken where, on the basis of an initial qualitative assessment, it was agreed that there was reasonable possibility that the option would have a beneficial impact, and also where there is sufficient evidence for quantitative estimates to be made. Impacts have been quantified for a sample of six airports (Düsseldorf, London Gatwick, London Heathrow and Paris Orly, Madrid and Vienna), and then extrapolated to other airports. The rationale for the selection of the airports was set out in section 2; the baseline scenario against which the impacts have been modelled is described in appendix 1; and more detail on the approach to quantified modelling of impacts, including the extrapolation to other airports, is described in appendix 2. Except where stated, it is assumed that the policy options would take effect in 2012 and the impact assessment covers the period up to 2025.
- 10.3 This section sets out the impact assessment of possible options for revision to the Regulation other than the introduction of market mechanisms, which are discussed in section 11. Section 12 summarises conclusions and recommendations.
- 10.4 Where a quantitative assessment has been undertaken, impacts are reported for:
- the number of flights operated from each airport;
 - the number of passengers transported from each airport;
 - impacts on airline operating costs, if any;
 - direct implementation costs (including administrative costs) caused, if any;
 - economic benefits (or disbenefits) generated by additional (reduced) traffic;
 - net economic benefits;
 - social impacts (airline, handling agent and airport-based employment); and
 - air fares; and
 - CO₂ emissions.
- 10.5 Other impacts should be limited and therefore are assessed in qualitative terms only. Where changes to the Regulation could have an operational impact, we have also considered the following impacts in qualitative terms:
- noise;
 - consumer impacts (such as range of frequencies and destinations); and
 - reliability/punctuality of flights.

Option B1: Measures to enhance the independence of the coordinator

10.6 We have considered a number of options which could potentially improve the independence of slot coordinators:

- Option B1.1: Amend the Regulation to specify that the coordinator should be organisationally, as well as functionally, separate from interested parties such as airport management companies and that it should not have any obligations to report back to them.
- Option B1.2: Amend the Regulation to specify that the coordinator must keep accounts and budgets separate from any party having an interest in its activities
- Option B1.3: Limit the types of adjacent activities that a coordinator may develop, in order to avoid any possible influence on the coordination activity.
- Option B1.4: Member States to have obligation to ensure that coordinator is adequately funded.
- Option B1.5: Financing of coordinator to be shared between airlines and airports, without excessive reliance on one single party.

Options B1.1 and B1.2

10.7 Options B1.1 and B1.2 are strongly linked and therefore we consider these options together: if the coordinator had to be a separate organisation instead of merely being functionally separate, as a consequence it would have to keep its own accounts and budget, as any independent organisation does. Of the coordinators evaluated for this study, all but one would already meet these criteria (see section 4 above): AENA would not, as the coordination activities are not organisationally separate from the airport management company, and are financed solely by one interested party. The Portuguese coordinator, ANA, also would not meet these criteria for the same reasons.

10.8 Most stakeholders interviewed for the study expressed strong support for ensuring the independence of coordinators. Many also said that the independence of coordinators had improved in the last 5-10 years as they were now more independent from national flag carriers. Airlines and other stakeholders generally believed that the current system of coordination was performing well, coordinators were now sufficiently independent, and that no changes to this part of the Regulation were required.

10.9 Several airlines and airline associations pointed out that AENA was not organisationally independent from the airport management company, and suggested that this was not consistent with the current Regulation; these stakeholders generally believed that this issue could be addressed through better enforcement of the existing Regulation by the Commission. However, in our view, it is less clear whether the arrangements in Spain are inconsistent with Article 4(2)(b) of the current Regulation. AENA coordination is a separate department within AENA, and therefore appears to meet the first part of this Article. It could be argued that it fails to meet the second part (“The system of financing the coordinators' activities shall be such as to guarantee the coordinator's independent status”), but this is not specific as to what is required and therefore it is difficult to determine whether it meets this or not, although as discussed in section 4 above it clearly does not meet the interpretation of this taken by the Commission in its 2008 Communication. If the coordinator did not act independently this would also infringe Article 4(2)(c).

- 10.10 A key issue is that it is almost impossible to demonstrate, within a single organisation, whether or not there is genuine independence. For example, a coordinator that was part of an airport management company might be given day-to-day management independence but if it took decisions that were not convenient for the company, he/she might be moved to a different position, or it might impact any review of the salaries of the coordinator staff. It would be very difficult to demonstrate that any such decision was linked to the operational decisions that the coordinator had taken.
- 10.11 The main impact of a requirement in the Regulation for organisational separation of coordinators would therefore be to require the organisational separation of the coordinator in Spain and Portugal. In addition, as traffic increases, it is likely that some other Member States will need to establish coordinators, and therefore this would prevent these from establishing coordinators within airport management companies or other interested parties. This option could incur some costs associated with establishing separate office and support facilities, although these would be low (see estimates below), and it might be possible to avoid these through an agreement on support facilities between the coordinator and AENA/ANA.

Additional costs for separation of AENA coordination

AENA coordination's budget is currently low (€304,000 per year) compared to other coordinators that also cover a large number of busy airports: for comparison the German coordinator FHKD incurs annual costs of around €3 million, and ACL incurs similar costs for coordination of UK airports (excluding costs associated with its other activities). If AENA coordination were to be established as a separate organisation, its total annual costs would probably be around the same level as FHKD or ACL, and these costs would need to be recovered from airlines and/or airports in Spain.

However, AENA coordination's current budget does not include staff salaries, systems or overheads – these are all covered by AENA from other revenue sources, such as airport charges. If AENA coordination was established as a separate organisation, these costs would be recovered differently, but the level of costs would not change. The only new costs that would be incurred would be costs for services and facilities which are currently shared, such as office costs and other overheads. For other coordinators for which we have data, these costs are 12%-16% of overall costs.

This indicates that the additional costs incurred as a result of separation of AENA coordination might be around €350,000-€500,000 per year. It might be possible to reduce these costs through an agreement on support facilities and services between the coordinator and AENA. Costs would also be incurred to separate any other coordinator that was part of the airport company, although these would be lower as most other coordinators cover fewer airports.

- 10.12 There is not a significant problem in practice with the independence of coordinators at present. However, the current situation in Spain and Portugal is undesirable because there is a risk that the coordinator could be placed under undue pressure by a single interested party (the airport management company), even if there is no evidence this actually occurs at present. In addition, there is risk that other Member States that establish new coordinators (as some may need to do as traffic increases) could establish coordinators that are part of the airport company, as in Spain or Portugal, or even as part of an airline. Therefore we recommend that if the Regulation is revised there should be a requirement for organisational separation of the coordinator. Coordinators which were separate organisations would by definition need to keep their own budget and accounts and therefore this does not need to be required specifically.

Option B1.3: Coordinators' commercial activities

- 10.13 The only coordinator which currently undertakes any commercial activities other than coordination is ACL, the coordinator for the airports in the UK and Ireland. The activities it undertakes were discussed in section 4 above. In addition, the Austrian coordinator (SCA) is a for-profit company and therefore makes a commercial return on coordination services. We also understand that other coordinators may develop some commercial activities in the future (for example, sale of schedule data to interested parties such as ground handling companies).
- 10.14 A number of stakeholders expressed concern in principle about ACL's commercial activities and considered that these could raise issues as to its neutrality, particularly if it was providing consultancy services to airlines as well as considering slot allocation requests from them.
- 10.15 However, all of the concerns expressed were theoretical and generally related to a potential conflict of interest if it provided consultancy services to airlines who might then apply to it for slots. In practice, ACL's list of consultancy clients does not include any airlines; the service it provides which is of most relevance to airlines, the slottrade.aero website, is funded through subscriptions and other users fees and payments are not related to whether transactions are successful. No stakeholders were able to point to any specific examples where ACL had not acted independently and ACL was frequently cited by airlines as an example of 'best practice' amongst the coordinators. Some airlines also pointed out that revenue from ACL's commercial activities enable it to reduce the charges it levies on airports and airlines for coordination services.
- 10.16 In addition, some of ACL's commercial activities have improved the transparency and effectiveness of the slot allocation system:
- the website slottrade.aero has significantly improved the transparency of secondary trading at UK airports, and contributed to this being far more transparent than at other EU airports; and
 - in conjunction with a software development company it developed the Online Coordination System (OCS), used at ACL airports and several airports at which ACL, which allows users to view slot availability and allocations online, and (for airlines) to submit requests and edit their existing slot portfolio.
- 10.17 If ACL's commercial activities interfered with the independence of its coordination activity, this would already infringe Article 4(2)(c) of the Regulation. Therefore, the only impact of a prohibition of all commercial activities would be to prohibit activities which did **not** interfere with independence – whilst increasing the cost of coordination and reducing the scope to develop adjacent activities which may benefit the industry. This would provide no benefits and therefore we suggest that this option should not be pursued further. However, we recommend that the Commission and the UK government should continue to monitor ACL's activities to ensure these do not interfere with the independence required by the Regulation.

Option B1.4: Member States to have obligation to ensure coordinator or schedules facilitator adequately funded

- 10.18 The Regulation at present does not guarantee that coordinators have sufficient financial resources to undertake their activities. Coordinators informed us that this has been an issue in the past, when airlines have faced financial problems and have not made payments due to the coordinator. This is particularly a problem when a coordinator is dependent on a single airline or airport for a significant proportion of its income, and as discussed below this may be difficult to avoid in States where the airline market is concentrated, particularly smaller States served by relatively few airlines, or where there are few coordinated airports.
- 10.19 Therefore, we suggest that, if the Regulation is revised, Article 4(2) should be amended to give Member States the ultimate obligation to ensure that coordinators and schedule facilitators have sufficient resources to undertake their activities. Under most circumstances this would not require the State to contribute to the funding of the coordinator, but they would be required to assist in the event of the coordinator or schedule facilitator suffering financial difficulties due to non-payment by airlines or airports. In addition there would be some costs for the State to monitor that the coordinator/schedule facilitator was sufficiently funded but these would be minimal (see estimate below).

Costs to monitor that coordinator sufficiently funded

The costs to monitor that the coordinator was sufficiently funded should be minimal. Under most circumstances, it should be sufficient for a Member State official to:

- review the coordinators' budget for the year
- undertake a brief annual meeting with the coordinator to discuss any financing issues

This might take around 1 day for the Member State official, and 0.5 days for one member of coordinator staff.

We estimate the cost of this would be slightly under €1,000 per State and approximately €21,000 EU-wide. This is on the basis that, according to EUACA, there are currently 22 Member States with either coordinators or schedule facilitators (the other EU Member States do not have any level 2 or level 3 airports).

Option B1.5: Require that funding of coordinator be shared between airlines and airports

- 10.20 The Regulation currently requires that the system of financing of a coordinator is sufficient to guarantee its independent status, but is not specific as to what this requires. As identified in section 4 above, coordinators are funded by airlines or airports, but the proportion varies and some are entirely directly funded by airlines; ultimately, since airports are also funded by charges on airlines, the costs will eventually be passed to airlines however the funding mechanism is designed. This can mean that the coordinator is very dependent for funding on the largest airline or airport: for example, the Dutch coordinator SACN is majority funded by KLM. This is not ideal, because it means that the coordinator is dependent on a single party.
- 10.21 In addition, in several States (for example, Germany), only national airlines fund the coordinator: this is not consistent with the principles in most bilateral Air Services Agreements on division of charges, for example the requirement in Article 12(1) of

the EU-US Open Skies Agreement that user charges be “not unjustly discriminatory, and equitably apportioned among categories of users”.

10.22 This could be improved if the coordinators were part funded by airlines and part funded by airports, and it was required that the airline proportion was divided between airlines on the basis of the number of slots used. It would not be possible to specify in the Regulation the proportion of funding for airlines and airports, as the appropriate proportion would vary between States:

- in a State with a concentrated airline market but a number of different airport operators (such as France), it would be appropriate for airports to contribute a relatively high share to avoid excessive dependence on a single airline; whereas
- in a State with only one coordinated airport (such as the Czech Republic), or where all airports are managed by the same company (such as Spain) it would not be appropriate for the airport to contribute such a high proportion.

10.23 We have also considered whether the Regulation should specify a maximum share (for example 40%) that any one airline or airport should contribute. The constraint on this would be the need to develop a system which could still work in States with only one coordinated airport, or all airports managed by the same company, *and* concentrated airline markets. For example, Finland has only one coordinated airport and Finnair is the dominant carrier at that airport. Under these circumstances it is hard to avoid a situation where one party (Finavia and/or Finnair) contributes at least 40% or more of the funding of the coordinator.

10.24 There would be some costs involved in changing the funding mechanism. If the Regulation was amended along these lines, changes would be required to the funding mechanisms for four of the coordinators in the sample (FHKD, SCA, ACS and SACN).

Estimated costs to change funding mechanism

In order to change the funding mechanism where this was required, we estimate that the coordinator would need to:

- draft a proposal
- consult with the coordination committee and other stakeholders
- adapt its financial/invoicing process

This might take approximately:

- draft proposal: 1 day
- consult coordination committee and other stakeholders: 5 days
- amend proposal if necessary: 1 day
- adapt invoicing data and processes: 3 days

In addition, an average of 10 airport and 10 airline representatives might need to respond to the consultation, and go through internal processes to agree a response and set up amended payments, taking an average of 2 days per airline or airport. In total this might incur costs of around €19,000 per Member State where the funding mechanism had to be amended. Four of the 10 States whose coordinators were reviewed for this study would have to change the funding mechanism and if the same proportion of other States with coordinators had to change the mechanism, the EU-wide costs would be €133,000.

The ongoing costs of administering the funding mechanism should be no different.

Other issues raised

- 10.25 Whilst not related to the specific options proposed, some other issues were raised in the course of the interviews for the study, particularly by coordinators. In particular, the Regulation does not explicitly guarantee independence from regional or national authorities: the main example cited of interference was the 2007 Lombardy regional law. However, this was overturned by the Italian Constitutional Court and in practice the obligation on Member States to ensure that the coordinator operates in a non-discriminatory manner should be sufficient.

Option B2: Measures to improve transparency of data

- 10.26 This option would strengthen and/or extend the requirements placed on coordinators regarding data, for example to require them to put data in a consolidated online database available to all stakeholders. The options considered are:
- Option B2.1: Require coordinators to place slot/schedule data in an online database;
 - Option B2.2: Require coordinators to publish other data online, such as overall slot allocation data; capacity parameters and local rules; and an annual report on their activities; and
 - Option B2.3: Require coordinators to keep data for longer time periods.
- 10.27 We asked stakeholders whether schedule data should be provided. However, several airlines argued that coordinators should not have any obligations with respect to schedule data, as this is not necessary for coordination: the Regulation does not require that a slot is route specific and therefore coordinators should not need to hold data on schedules. However, in practice, most coordinators do collect data for schedules and therefore there is little difference in practice.
- 10.28 Most coordinators already provide information online. As discussed in section 4 above, two database systems have been set up which provide slot information:
- EUACA (the association of slot coordinators) has set up a database of slot allocations, which is managed by COHOR, the French coordinator
 - ACL in conjunction with a software development company PDC has developed Online Coordination system (OCS), which allows users to obtain slot data, submit slot requests, and edit their existing slot portfolio.
- 10.29 The main beneficiaries from improved data from coordinators would be airlines seeking to expand or amend their services. We asked airlines if they were satisfied with the data available: most were, and did not see any need for this element of the Regulation to be revised, or any benefits from doing so. Some did however point to ways in which data provision could be improved:
- coordination parameters and local rules are not always transparent;
 - overall slot allocations and availability are not always transparent: although allocations can be extracted from the EUACA database, the data in the EUACA database is too disaggregate to enable an airline to review easily when/where slots are available;

- some airlines believed that not all coordinators make slot information available online (although this is not true at least for the sample of States reviewed for this study – all of these coordinators provide information either to the EUACA or OCS databases, or both); and
- online slot data is not always updated in ‘real time’, which would be useful during the scheduling and slot allocation process as allocations can change quickly.

10.30 The ability to provide real-time data online depends on the systems used by individual coordinators and therefore is not an issue that can be addressed through legislation. However, there is no reason why coordination parameters and local rules could not be published by all coordinators, along with a summary of slot allocations and where and when there is spare capacity, and made available on their websites.

10.31 As coordinators already make data available to online databases, we have not considered further the option requiring them to do so (B2.1), as this would have no impact. Introducing this as a requirement could still have some limited benefits in the future if other States appoint coordinators. We consider further the other two options.

Option B2.2: Extend requirements to publish data online

10.32 This option would require that coordination parameters and local rules be published by all coordinators, along with a summary of slot allocations and where and when there is spare capacity, and made available on their websites. Most, but not all, coordinators do this already, and there would be minimal costs in publishing online information that must anyhow be available. This would be of benefit to airlines, particularly non-EU airlines or new entrants not familiar with the EUACA and OCS databases, and other industry stakeholders such as ground handlers who cannot gain access to the EUACA database. In addition, this would assist airlines in obtaining an overview of slot allocation at an airport; whilst this is theoretically possible from the EUACA database, it is not easy to aggregate airport-level data from the raw slot data which can be obtained from the database. It would also assist airlines looking to expand services to have easy access to figures on capacity parameters and any local guidelines.

10.33 This could be achieved by amending Article 4(6) of the Regulation to require all coordinators to publish certain information online. This should include:

- capacity parameters for each season;
- local guidelines (if any);
- a summary of slot allocation, showing total slot requests and allocations per hour and total slot allocations by airline, for the peak week; and
- a summary of slot utilisation, in total and by airline, for the previous season.

10.34 In addition, the current Regulation requires coordinators to provide annual reports on their activities when requested. EUACA stated that it could be difficult to produce this retrospectively on request and it would be better for this to be mandatory. There are also significant differences in the format and content of these reports between coordinators. Therefore, we suggest that the Regulation should specify that these should be produced and published; the content should be agreed between coordinators and the Commission but should include at least the items mentioned above.

Option B2.3: Requirement to retain data for at least 5 years

- 10.35 The EUACA and OCS databases provide data for the current seasons and usually one previous summer and winter season, but not for a longer period. However, national competition authorities and the European Commission can only analyse trends in slot allocation (for example, to test the impacts of secondary trading) if longer term data is available. We found for this study that most coordinators do keep longer term slot allocation data but not all do. Keeping data for a longer period should be a simple matter of saving and retaining data files and the cost of doing this should be negligible.
- 10.36 Although longer term historical data is not necessary for coordinators' regular activities and is not required by airlines, it is of relevance to regulatory authorities (either national competition authorities or the Commission) in analysing trends in slot allocation and utilisation. Therefore we suggest that the Regulation should be amended to require coordinators to keep and make available on request data on slot requests, allocation and utilisation data for at least 5 years.

Estimate of costs and benefits

- 10.37 The requirement to publish information on demand and capacity online, and to produce annual reports, would be an administrative burden and therefore needs to be measured using the Standard Cost Model (SCM). The requirement to retain data for five years should generate negligible costs.
- 10.38 We estimate total administrative costs of €200,024 of which €94,265 is administrative burden. The calculation for this is shown in appendix 4. The proportion of costs which are 'business as usual' takes into account that:
- most coordinators already produce annual reports but the content of these is quite variable and most are not currently uploaded to the website;
 - the most complex information to compile would be the demand and capacity charts for each airport, and these are already produced by most coordinators, but a few either do not publish these at all, or do not publish these for all coordinated airports; and
 - utilisation charts are not generally published at present, so this would be a new obligation.
- 10.39 It is not possible to quantify the benefits of improved information transparency, as this depends what stakeholders would do with the additional information. However, this could have several benefits, including facilitating applications for slots particularly by new entrants, and hence improved competitiveness and an improved allocation of slots.

Conclusions

- 10.40 The requirements in the Regulation on transparency of data should be extended to require coordinators to:
- publish online, and maintain up-to-date, local rules and capacity parameters for each airport;

- publish online, at the start of every season, total slot requests, allocations and remaining available slots per hour, and total slot requests and allocations by airline, for the peak week;
- publish online, at the end of every season, a breakdown of slot utilisation by airline;
- produce an annual report on their activities and also to publish this online; and
- to keep and make available on request data on slot requests, allocations and utilisation for at least 5 years.

Option B3: Ensure proper use of slots

10.41 The first two sub-options propose to address late handback of slots, through:

- Option B3.1: Introduction of a slot reservation fee
- Option B3.2: Introduction of penalties for late handback of slots

10.42 The third option, option B3.3, seeks to improve and strengthen the role of the coordinator in the application of Article 14. This could address issues much wider than late handback, including off-slot and no-slot operations.

Option B3.1: Introduce a slot reservation fee

10.43 This option would introduce a new charge which airlines would still have to pay if they did not use the slots that they reserved. The charge would be paid to the airport in the same way as the other charges paid by airlines. The charge could be designed to be revenue neutral for the airport, if landing charges or other airport charges were reduced to take into account revenue from the fee (including revenue from fees paid for non-operated slots).

10.44 Many coordinators believed that this would be very effective in encouraging airlines not to overbid for slots and to hand back slots that they did not intend to use before the deadline. Coordinators also argued that the fee could be set at quite a low level and still be effective, because many airlines hand back slots late through poor organisation and it being a low priority (as it has no cost), rather than an intention to disrupt the operations of competitors. When a slot reservation fee was introduced at Düsseldorf in 2003-4, there was a substantial reduction in the rate of no-shows: from 20% in summer 2003 to 9% in summer 2004, and from 16% in winter 2002 to 10% in winter 2003. However, some airlines refused to pay the fee and it was rescinded as part of wider negotiations on airport charges.

10.45 Several arguments were made against slot reservation fees:

- Many airlines argued that these fees would simply result in higher airport charges and therefore higher operating costs, and give airports a financial incentive to remain capacity constrained. However, there is no reason why this should be the case. A fee could be designed to be revenue neutral if it offset the landing charge, provided the level of the fee was set slightly below the level of the landing charge offset, to ensure that the total amount paid to the airport was equivalent (taking into account that all airlines with reserved slots would pay the fee, whereas only airlines which actually operate pay landing charges). Airlines that operated most of the slots that they reserved would pay lower charges than before.

- Slot reservation fees could cause an issue for airlines' cash flows, as the slot return date is well in advance of when the flight is operated and when the airline would receive ticket revenue. However, this could be addressed by making the airline liable for the fee at the slot return date, but not obliging it to actually pay the fee until it was liable to pay the corresponding landing charge (or the date of the slot, if the flight was not operated).
- Many airlines also argued that the risks inherent in the aviation business, such as downturns in demand, bad weather and other factors leading to cancellations, should be shared between airlines and airports. Some slots are handed back late for reasons that are outside airlines control (for example late delivery of new aircraft). Therefore, they argued that as a matter of principle, airlines should not have to pay for slots for flights that are cancelled.
- Airlines could argue that slot reservation fees infringe the EU-US bilateral and some other bilateral agreements (see section 6 above). Airlines may also argue that they infringe the Chicago Convention, although for the reasons discussed in section 7 above we think this argument is weak. The risk of a slot reservation fee being found to infringe bilaterals should be much reduced if it is designed to offset other airport charges and therefore is revenue neutral.

10.46 There is a much stronger argument for slot reservation fees at the most congested airports. At uncongested airports, a slot in itself does not have a value, but at the most congested airports, reservation of slots causes costs for other parties (airlines and the airport) which should be recovered. The Düsseldorf experience demonstrates that slot reservation fees could be very effective in reducing the problem of late handback, and thereby improving capacity utilisation at some of the most congested airports and improving the efficiency of the administrative allocation system.

10.47 However, there would be no impact on capacity utilisation at less congested airports, and it is likely that even if these airports could introduce such charges, they would not do so given the strong opposition from airlines - airlines are in a stronger negotiating position at these airports and could threaten to move their operations if fees were introduced, or simply refuse to pay⁶⁰. There would also be no impact on the number of movements at airports such as Heathrow where the number of flights is limited: at Heathrow, the number of slots allocated is higher than the movement limit for the airport, to allow for some cancellations, so if the rate of slot utilisation improved, the number of slots allocated would have to be reduced to offset this. However, even at these airports, a slot reservation fee could improve the efficiency of the administrative allocation process.

10.48 Capacity reservation fees exist in other sectors in which capacity is constrained: for example, they are specifically permitted in the rail sector by Article 12 of Directive 2001/14/EC, and are applied by many rail infrastructure managers. In addition, airlines regularly impose what are in effect capacity reservation fees on their passengers: most

⁶⁰ Some airlines, including Lufthansa, refused to pay the slot reservation fee at Düsseldorf. This has also been an issue with some other new charges: for example, charges introduced to cover the cost of providing services to passengers with reduced mobility, whilst explicitly permitted by Regulation 1107/2006, have not been paid at airports served by some low cost carriers (see Evaluation of Regulation 1107/2006, Steer Davies Gleave on behalf of European Commission, 2010).

tickets are not refundable if the passenger decides not to travel, even if this is for reasons outside the passenger's control.

- 10.49 Many stakeholders argued that a slot reservation fee, if designed as an airport charge, would be consistent with the current Regulation, and therefore no change to the Regulation is required. However, others considered that an explicit permission in the Regulation for such a charge would make it easier to implement and reduce the risk of legal challenge.

Estimate of impacts

- 10.50 The impact that a slot reservation fee would have would be to improve the utilisation of slots. Airlines would be less likely to apply for slots that they would not use, and where demand for slots exceeded capacity, other airlines would be able to obtain slots as a result. This would enable more flights to be operated.

- 10.51 The impact that a fee would have depends on why allocated slots are not used. Airlines interviewed for the study argued that this was due to reasons outside their control, such as late delivery of aircraft, which would imply that a fee would have no impact. However, coordinators and airports argued that at least some of the failure to return slots was due to airlines either deliberately failing to return slots so that they could not be allocated to their competitors, or to the lack of incentive for airlines and hence low priority given to returning slots. The significant impact that the slot reservation fee had at Düsseldorf (approximately a 50% reduction in late handback) indicates that this could have a positive impact.

- 10.52 In order to evaluate the impact of a slot reservation fee, it is first necessary to determine which airports might introduce it, if there was an option to do so:

- A fee might have the most significant impact at Paris Orly, London Gatwick and Düsseldorf. The data reviewed for this study shows that late handback has a relatively significant impact on capacity utilisation at Gatwick. At Orly, late handback is less common, reflecting the fact that demand significantly exceeds capacity and therefore slots have significant value, but any late handback at Orly has a significant economic impact given the constraint on allocation of slots.
- We would expect that Heathrow airport either would not introduce such a fee, or if it did, the fee would have no quantifiable impact. This is because the number of movements at Heathrow is subject to an annual cap, and more slots are allocated than movements are permitted, as it is expected that a proportion will not be used. If the proportion of slots that were utilised increased, the number of slots allocated would have to be reduced to offset this. There might still be an impact in terms of improved efficiency of slot allocation at Heathrow, but this is not possible to quantify, and in any case would be low as there are few late handbacks at Heathrow.
- In addition, the fee would have no quantifiable impact at airports and times at where the initial requests for slots were less than capacity. Of the airports in the sample, this means that a fee would have no impact during shoulder and off peak periods at Madrid and Vienna. Nonetheless these airports might introduce such a fee if there was an option to do so, as it would have an impact during peak periods, although as both airports have a significant amount of non-EU traffic there is a higher risk that introduction of a fee might be subject to legal challenge.

Vienna airport might also be deterred from introducing a fee by the possibility of some airlines' moving operations elsewhere, for example to Bratislava; this is not an issue for Madrid as there are no other airports in the region.

- 10.53 In order to quantify the potential impact of a slot reservation fee, we have estimated the reduction in the number of flights scheduled as a result of late handbacks (handbacks between the slot return date and the start of the season). At the congested airports for which we have data, this averages 2.7% (see Table 5.14 above). We assume that this could be reduced by 50%, as at Düsseldorf, by slot reservation fees. However, this would have no impact on the actual number of flights operated where initial requests for slots did not exceed capacity; the maximum impact would be where the number of allocated slots was equal to capacity.
- 10.54 Where an airport decided to introduce a slot reservation fee, some costs might be incurred in administering this, but these should be minimal as it would be collected through the standard system of airport charges. Our approach to estimating direct implementation costs is discussed below.
- 10.55 Table 10.1 shows the estimated impacts of this option. At most airports (except Heathrow), there is an increase in the number of flights operated, which leads to an increase in the number of passengers that can be transported, and hence increased employment and economic benefits, but also increased emissions. As more passengers can travel within the limited capacity available, there is also a slight reduction in air fares at these airports. However, at most of these airports, the impacts are relatively small, as the increase in the number of flights is also small. The impacts would be most significant at Gatwick reflecting the fact that, for the periods for which we have data, there is the most net late handback there; in addition, demand exceeds capacity and therefore late handback is most likely to result in other airlines not being able to obtain slots. Impacts at Madrid and Vienna would be low in some years of the period covered by the impact assessment; as demand only exceeds capacity during peak periods, and there would be little or no impact initially after the capacity expansions both airports plan to implement.

TABLE 10.1 QUANTIFIED IMPACTS: OPTION B3.1 (SLOT RESERVATION FEES)

Percentage impact on traffic volumes handled at each airport										
		Impact on number of flights operated (%)				Impact on number of passengers (%)				
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025	
Dusseldorf	DUS	0.3%	0.3%	0.4%	0.3%	0.3%	0.3%	0.4%	0.3%	
London Gatwick	LGW	0.9%	1.4%	1.4%	1.3%	0.9%	1.4%	1.4%	1.3%	
London Heathrow	LHR	-	-	-	-	-	-	-	-	
Madrid	MAD	0.4%	0.2%	0.5%	0.3%	0.4%	0.2%	0.5%	0.3%	
Paris Orly	ORY	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	
Vienna	VIE	0.3%	0.8%	0.2%	0.4%	0.3%	0.8%	0.2%	0.4%	

Economic impacts											
		Airline operating costs (€ 000s)					Other direct costs (€ 000s)				
		2012	2017	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	-	-	-	-	-	18	4	4	5	53
London Gatwick	LGW	-	-	-	-	-	18	4	4	5	53
London Heathrow	LHR	-	-	-	-	-	18	4	4	5	53
Madrid	MAD	-	-	-	-	-	18	4	4	5	53
Paris Orly	ORY	-	-	-	-	-	18	4	4	5	53
Vienna	VIE	-	-	-	-	-	18	4	4	5	53

		Economic benefits (€ 000s)					Net economic benefits (€ 000s)				
		2012	2017	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	1,345	1,685	2,672	2,053	20,654	1,327	1,681	2,668	2,048	20,601
London Gatwick	LGW	7,107	12,486	13,608	11,754	119,621	7,089	12,482	13,605	11,749	119,568
London Heathrow	LHR	-	-	-	-	-	18	4	4	5	53
Madrid	MAD	4,443	2,251	8,811	4,333	45,194	4,425	2,247	8,807	4,328	45,141
Paris Orly	ORY	5,328	5,815	6,689	5,985	61,809	5,310	5,812	6,685	5,980	61,756
Vienna	VIE	1,608	4,461	1,574	2,493	26,492	1,590	4,457	1,570	2,488	26,438

Social impacts										
		Airport employment (FTEs)				Airline and handling agent employment (FTEs)				
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025	
Dusseldorf	DUS	41	51	81	62	50	68	118	85	
London Gatwick	LGW	216	379	413	357	426	795	887	748	
London Heathrow	LHR	-	-	-	-	-	-	-	-	
Madrid	MAD	135	68	267	131	253	134	577	266	
Paris Orly	ORY	162	176	203	182	214	231	271	239	
Vienna	VIE	49	135	48	76	52	172	57	92	

Other quantifiable impacts										
		Impact on air fares (%)				Impact on CO2 emissions (000s tonnes of CO2)				
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025	
Dusseldorf	DUS	-0.3%	-0.3%	-0.3%	-0.3%	9.1	11.5	18.2	14.0	
London Gatwick	LGW	-0.8%	-1.3%	-1.2%	-1.2%	72.5	128.7	132.1	118.5	
London Heathrow	LHR	-	-	-	-	-	-	-	-	
Madrid	MAD	-0.3%	-0.1%	-0.4%	-0.3%	44.6	22.6	88.3	43.6	
Paris Orly	ORY	-0.8%	-0.8%	-0.8%	-0.8%	37.4	38.2	41.2	38.9	
Vienna	VIE	-0.3%	-0.7%	-0.2%	-0.4%	10.1	30.5	9.4	16.3	

10.56 Table 10.2 summarises the average results per year for the modelled sample airports, and the extrapolated EU-wide impacts (both to all coordinated airports, and to all airports with over 20 million passengers). The extrapolation to other airports takes into account the relative level of congestion at these airports, and the relative traffic volumes (more detail on the approach to extrapolation is provided in appendix 2). The modelled airports account for almost one third of the potential EU-wide impact of this option, as the other EU airports are generally less congested, and therefore late handback of slots is less likely to prevent operation of other air services at these airports; the other coordinated airports are also smaller on average. The other airports at which the policy could have relatively significant benefits are Paris CDG, Milan Linate, Rome Fiumicino, and also Frankfurt and Munich particularly before the new runways open at these airports.

TABLE 10.2 QUANTIFIED IMPACTS SUMMARY: OPTION B3.1 (SLOT RESERVATION FEES)

Average impact per year, 2012-25	Modelled airports	Airports >20 million pax	All coordinated airports
Passengers (%)	0.5%	0.3%	0.3%
Flights (%)	0.5%	0.4%	0.2%
Passengers (millions)	1.2	2.3	3.7
Airline operating costs (€ million NPV)	0.0	0.0	0.0
Direct implementation costs (€ million NPV)	0.3	0.7	4.7
Economic benefits (€ million NPV)	273.8	526.3	868.7
Net economic benefits (€ million NPV)	273.5	525.6	864.0
Airport employment (000 FTEs)	0.8	1.5	2.5
Airline employment (000 FTEs)	1.4	2.7	4.4
Fares (%)	-0.5%	-0.3%	-0.2%
CO2 emissions (tonnes, 000s)	231	444	719

Note: Financial values presented as net present value (NPV) of costs/benefits 2012-25. Non-financial values (passengers, emissions etc) presented as annual average values 2012-25.

10.57 The qualitative assessment of other impacts is shown below.

TABLE 10.3 OTHER IMPACTS: OPTION B3.1 (SLOT RESERVATION FEES)

Impact category	Impact
Noise	Slight increase, as a result of to slightly more flights from major airports
Frequencies and destinations served	Slight increase, as a result of to slightly more flights from major airports
Punctuality and reliability	Slight reduction in cancellations, as more incentive to operate every flight Slight increase in delays, due to slight increase in number of movements (and hence congestion)

Costs of implementation of slot reservation fee

There would be one-off costs of consultation with airlines, and amending invoicing process/systems, if a slot reservation fee was implemented. We have estimated these as:

- 10 days per airport
- 1 day for each of 10 airlines at each airport which might respond to the consultation

Ongoing costs would be minimal as airports would use their existing airport charges systems – therefore, there would be no additional costs for invoicing or collection of the charge. However there would be some limited costs for the coordinator to provide data and for the calculation of the new charge by the airport:

- Coordinator: 1 day per season per airport
- Airport: 2 days per season

This indicates that the costs of setting up a slot reservation fee might be €15,000 per airport, and the ongoing costs around €4,000.

If 50% of the fully coordinated airports in the EU implemented a slot reservation fee, this would equate to set-up costs of around €635,000 and annual costs of around €167,000.

Substantially greater costs would be incurred in the event of a legal challenge to the introduction of slot reservation fees.

Option B3.2: Introduce penalties for late handback

10.58 The Regulation does not require Member States to have penalties for late handback of slots, but it does not preclude them from doing so. For example, as discussed in

section 4 above, Spain already has such penalties, defined in its Aviation Security Law, and Germany also has penalties.

10.59 Many coordinators believed that penalties for repeated or intentional late handback of slots would be effective in altering airlines' behaviour, but that penalties would be less effective than slot reservation fees, because of the cost and difficulty of imposing penalties and in demonstrating that the late handback was deliberate.

10.60 Nonetheless penalties have some advantages over slot reservation fees:

- Penalties may be easier to introduce than slot reservation fees: whilst most airlines strongly opposed slot reservation fees, and some might threaten to move to other airports where these were introduced or refuse to pay them, many airlines supported the possibility of penalties being available for late handback, provided these were not imposed when there were valid reasons for the late handback, such as late delivery of aircraft.
- The slot return date (SRD) is only 11 weeks before the start of the season. A reservation fee would not be paid by airlines handing back slots at this point, but handback on or immediately before the deadline still reduces the chance that slots can be utilised efficiently by another airline. The Regulation could allow for penalties to be imposed on airlines that retained slots at any point, even if before the SRD, if it was clear that it was not going to use them - for example, because they were not marketing any flights. However, this would have to be on a case-by-case basis and might involve high costs of investigation.
- Penalties would only be imposed on airlines that repeatedly or intentionally handed back slots late, and therefore would not cause any issues for cash flow of other airlines.
- The introduction of penalties should not raise any issues of compliance with bilateral agreements or other legal issues.

Estimate of impacts

10.61 The impact of the introduction of penalties would vary by airport:

- Germany and Spain already have penalties available for late handback, and therefore there would be no impact at Düsseldorf or Madrid airports from the introduction of a requirement for States to have penalties.
- At Heathrow, because of the annual movement cap, there would be no impact on the number of movements. There might be an impact in terms of improved efficiency of the slot allocation system from fewer late handbacks, although this is not possible to quantify and the impact would be small as there are few late handbacks at Heathrow (given the high value slots have).
- At London Gatwick, Vienna and Paris Orly there would be an impact in terms of fewer late handbacks, which would allow more slots to be allocated to airlines.

10.62 For Gatwick, Vienna and Orly we have used the same approach to estimate the impact penalties might have as for the slot reservation fees. However, it is less clear what impacts penalties could have: it is not clear that late handbacks currently occur less at the German and Spanish airports where there are already penalties available in law. Therefore we have assumed that penalties could, at most, achieve a 25% reduction (half that for slot reservation fees).

10.63 There is no clear data available to make an estimate of the costs incurred in imposing a penalty, as (in most cases) these are imposed by national authorities, whose costs and time requirements are not transparent; we have made some assumptions (set out below – see after paragraph 10.66) in order to make an estimate of potential direct implementation costs. The cost to the airlines concerned of any fine that they might have to pay is not included in this, as this is a transfer payment to the national authorities and should have no economic impact.

10.64 The results of this analysis are shown in Table 10.4. At Gatwick, Vienna and Orly the introduction of penalties would lead to an increase in the number of flights operated and hence the number of passengers carried, employment and economic benefits, but also increased emissions. For the reasons discussed above, there are no quantifiable impacts at Düsseldorf, Madrid or Heathrow, and the impacts are very small at Vienna reflecting the fact that this airport is not heavily congested. Impacts are greatest at Gatwick and Orly, but are still relatively small, reflecting the fact that the availability of penalties has only a limited effect on late handback.

TABLE 10.4 QUANTIFIED IMPACTS: OPTION B3.2 (PENALTIES FOR LATE HANDBACK)

Percentage impact on traffic volumes handled at each airport

		Impact on number of flights operated (%)				Impact on number of passengers (%)			
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025
Düsseldorf	DUS	-	-	-	-	-	-	-	-
London Gatwick	LGW	0.5%	0.7%	0.7%	0.7%	0.5%	0.7%	0.7%	0.7%
London Heathrow	LHR	-	-	-	-	-	-	-	-
Madrid	MAD	-	-	-	-	-	-	-	-
Paris Orly	ORY	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Vienna	VIE	0.2%	0.4%	0.1%	0.2%	0.2%	0.4%	0.1%	0.2%

Economic impacts

		Airline operating costs (€ 000s)					Other direct costs (€ 000s)				
		2012	2017	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2025	Average 2012-2025	NPV 2012-2025
Düsseldorf	DUS	-	-	-	-	-	-	-	-	-	-
London Gatwick	LGW	-	-	-	-	-	- 32	- 32	- 32	- 32	- 330
London Heathrow	LHR	-	-	-	-	-	- 32	- 32	- 32	- 330	
Madrid	MAD	-	-	-	-	-	-	-	-	-	
Paris Orly	ORY	-	-	-	-	-	- 32	- 32	- 32	- 330	
Vienna	VIE	-	-	-	-	-	- 32	- 32	- 32	- 330	
		Economic benefits (€ 000s)					Net economic benefits (€ 000s)				
		2012	2017	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2025	Average 2012-2025	NPV 2012-2025
Düsseldorf	DUS	-	-	-	-	-	-	-	-	-	-
London Gatwick	LGW	3,553	6,243	6,804	5,877	59,811	3,522	6,212	6,773	5,845	59,480
London Heathrow	LHR	-	-	-	-	-	- 32	- 32	- 32	- 32	- 330
Madrid	MAD	-	-	-	-	-	-	-	-	-	
Paris Orly	ORY	2,664	2,908	3,344	2,992	30,905	2,632	2,876	3,313	2,961	30,574
Vienna	VIE	804	2,230	787	1,247	13,246	772	2,199	755	1,215	12,915

Social impacts

		Airport employment (FTEs)				Airline and handling agent employment (FTEs)			
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025
Düsseldorf	DUS	-	-	-	-	-	-	-	-
London Gatwick	LGW	108	189	206	178	213	398	443	374
London Heathrow	LHR	-	-	-	-	-	-	-	-
Madrid	MAD	-	-	-	-	-	-	-	-
Paris Orly	ORY	81	88	101	91	107	115	135	120
Vienna	VIE	24	68	24	38	26	86	29	46

Other quantifiable impacts

		Impact on air fares (%)				Impact on CO2 emissions (000s tonnes of CO2)			
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025
Düsseldorf	DUS	-	-	-	-	-	-	-	-
London Gatwick	LGW	-0.4%	-0.6%	-0.6%	-0.6%	36.3	64.4	66.0	59.3
London Heathrow	LHR	-	-	-	-	-	-	-	-
Madrid	MAD	-	-	-	-	-	-	-	-
Paris Orly	ORY	-0.4%	-0.4%	-0.4%	-0.4%	18.7	19.1	20.6	19.4
Vienna	VIE	-0.1%	-0.3%	-0.1%	-0.2%	5.1	15.3	4.7	8.2

10.65 Table 10.5 summarises the average results per year for the modelled sample airports, and the extrapolated EU-wide impacts. As for the previous option, the modelled

airports account for a significant proportion of the potential impact of this option, as the other EU airports are generally less congested and therefore it has less impact. The other airports at which this could have greater impact are the larger and relatively congested airports in States which do not already have penalties, such as Paris CDG, Rome Fiumicino and Milan Linate. This option would not have any impact at the other airports in Germany or Spain, as there are already penalties for late handback available in German and Spanish national law.

TABLE 10.5 QUANTIFIED IMPACTS SUMMARY: OPTION B3.2 (PENALTIES FOR LATE HANDBACK)

	Modelled airports	Airports >20 million pax	All coordinated airports
Passengers (%)	0.2%	0.1%	0.1%
Flights (%)	0.2%	0.1%	0.1%
Passengers (millions)	0.4	0.9	1.5
Airline operating costs (€ million NPV)	0.0	0.0	0.0
Direct implementation costs (€ million NPV)	1.3	2.9	19.4
Economic benefits (€ million NPV)	104.0	200.8	352.7
Net economic benefits (€ million NPV)	102.6	198.0	333.3
Airport employment (000 FTEs)	0.3	0.6	1.0
Airline employment (000 FTEs)	0.5	0.9	1.5
Fares (%)	-0.2%	-0.1%	-0.1%
CO2 emissions (tonnes, 000s)	87	146	254

Note: Financial values presented as net present value (NPV) of costs/benefits 2012-25. Non-financial values (passengers, emissions etc) presented as annual average values 2012-25.

10.66 The qualitative assessment of other impacts is shown below.

TABLE 10.6 OTHER IMPACTS: OPTION B3.2 (PENALTIES FOR LATE HANDBACK)

Impact category	Impact assessment
Noise	Slight increase, as a result of to slightly more flights from major airports
Frequencies and destinations served	Slight increase, as a result of to slightly more flights from major airports
Punctuality and reliability	Slight reduction in cancellations, as more incentive to operate every flight Slight increase in delays, due to slight increase in number of movements (and hence congestion)

Costs of imposition of penalties

On the basis of experience with penalties to date, penalties would be imposed quite rarely: it might be expected that there could be a small number (1-3) penalties at each large fully coordinated airport each year. Illustratively, the implementation of a penalty might take:

- Member State authorities: 20 days per case
- Airline concerned: 10 days per case

In addition, some limited legal advice would be required, which we have estimated as €5,000 for each of Member State and airline.

This indicates that the cost of imposing a penalty might be around €32,000. If one penalty was imposed per year at most fully coordinated airports (excluding those at which penalties are already available) the cost EU-wide might be around €1.9 million per year.

Combined impacts of B3.1 and B3.2

10.67 Both options B3.1 and B3.2 seek to deter late handback. If both were implemented, the net impacts would be less the sum of the two options. In order to estimate the impact of implementing both of these options, we have assumed that the implementation of penalties for late handback as well as slot reservation fees would eliminate 25% of the *remaining* late handback not removed by slot reservation fees, and therefore the net impact would be to eliminate up to 62.5% of late handback. The estimated combined impacts are shown below.

TABLE 10.7 QUANTIFIED IMPACTS SUMMARY: OPTIONS B3.1 AND B3.2 COMBINED

	Modelled airports	Airports >20 million pax	All coordinated airports
Passengers (%)	0.7%	0.5%	0.4%
Flights (%)	0.8%	0.5%	0.3%
Passengers (millions)	1.4	2.7	4.5
Airline operating costs (€ million NPV)	0.0	0.0	0.0
Direct implementation costs (€ million NPV)	1.4	3.1	20.8
Economic benefits (€ million NPV)	325.7	627.1	1,053.2
Net economic benefits (€ million NPV)	324.3	624.0	1,032.5
Airport employment (000 FTEs)	1.0	1.8	3.1
Airline employment (000 FTEs)	1.7	3.1	5.1
Fares (%)	-0.7%	-0.5%	-0.2%
CO2 emissions (tonnes, 000s)	275	511	842

Note: Financial values presented as net present value (NPV) of costs/benefits 2012-25. Non-financial values (passengers, emissions etc) presented as annual average values 2012-25.

Option B3.3: Strengthen powers of enforcement

10.68 A number of other issues were raised with relation to Article 14 by coordinators:

- Article 14(2) requires the coordinator to withdraw slots from an airline if it does not have an operating license. Coordinators suggested that it should be extended to allow withdrawal of slots where an airline does not have traffic rights or other necessary permissions.
- Article 14(5) does not specifically mention no slot operations, or failure to cancel a slot that is not to be used. Some States have interpreted the scope of the Article to include operations without a slot and ‘no shows’, and the Regulation does not prevent Member States from having more extensive sanctions for slot misuse. However, it would give more certainty if the Article was amended to refer to this.
- Article 14(5) refers only to repeated and intentional abuse of a slot. In some cases of misuse, an individual breach could be so serious that sanctions would be appropriate: for example, a flight that landed at Heathrow without a slot during the Olympics period would cause significant disruption and this should be subject to penalties. This issue could be addressed by amending the Article to refer to ‘repeated **or** intentional misuse’, instead of ‘repeated **and** intentional misuse’.
- Coordinators argued that it should be clarified that the references in Article 14(4) and 14(5) to ‘cause prejudice to airport or air traffic operations’ should apply only to the ‘use of slots in a significantly different way’, and not to ‘operating at a significantly different time’. In addition, it could be interpreted that failure to comply with emissions or noise limits where these are part of the allocated capacity parameters does not necessarily cause prejudice to airport or air traffic operations. This could be resolved by deleting the reference to ‘cause prejudice to

airport or air traffic operations' from both Article 14(5) and 14(6).

- Coordinators also argued that Article 14(6) should be extended to give them the right to withdraw a series before the start of the season if the air carrier concerned cannot demonstrate that it intends to use it. If the series is withdrawn during the season, it is too late to allocate this to another carrier.
- In most States, the coordinator is not responsible for imposing sanctions under Article 14(5) and will not necessarily be informed of the outcome of a case that it refers to the appropriate authorities, including the details of any sanction imposed. The Article could require the coordinator to be notified of the outcome of the case.
- Article 7(2) allows the coordinator to not take into account slot requests from airlines where information is missing, misleading or false, but this is of limited benefit as coordinators normally only find out that information was misleading or false after the slots have been allocated. This could be addressed by amending Article 14(5) to require that sanctions be available for failing to provide reasonably requested information, or providing misleading or false information. This would be particularly important if coordinators had a role providing data to the Network Manager (option B6 below).

Conclusions

10.69 These changes would all be relatively minor but would all improve the operation of the Regulation, and we recommend that they should be implemented. These changes would be part of the normal operation of the coordinator and would not incur quantifiable costs.

Option B4: Clarify definition and rights of business aviation

10.70 This section evaluates two possible changes to the definition and rights of business aviation:

- Option B4.1: Allow capacity to be reserved for business aviation
- Option B4.2: Amend definition of business aviation in the Regulation

Option B4.1: Allow capacity to be reserved for business aviation

10.71 This option would amend the Regulation to make it possible for business aviation (and possibly other ad hoc operations) to be allocated a proportion of slots if the operators in aggregate provided a regular enough service to gain historical preference. This is not possible at present, even at airports where there are a high proportion of business aviation operations, because

- Business aviation operators generally would not apply in advance for a series of 5 or more slots, as the operations are almost all ad hoc.
- Operations are usually undertaken by different operators at different times on different days, and therefore these could not be counted as a series in any case.
- Some coordinators consider that business aviation is only eligible for a slot if it operates on the same route, as well as being the same operator at the same time. This is based on an interpretation of Article 2(f)(i), which states that business aviation must “operate according to a schedule”, but does not define what schedule is.

- 10.72 Business aviation representatives suggested that this could be addressed by business aviation being granted historic rights to the overall level of capacity that it utilises. It would have to achieve 80% utilisation of this capacity in aggregate in order to retain it. The main arguments in favour of granting capacity to business aviation are that
- business aviation is unfairly penalised by the current Regulation, as the nature of the operation is ad hoc, whereas the approach to slot coordination defined in the Regulation is designed for regular air services;
 - business aviation operators make significant investments in assets at airports and the development of services, but can then find that they are unable to utilise these due to the growth of regular air services; and
 - business aviation produces significant economic benefits by allowing direct links between airports where there is not sufficient demand to support direct flights – for example business aviation served 103,000 airport pairs in Europe in 2009, compared to 32,000 for scheduled traffic⁶¹.
- 10.73 This option was strongly opposed by most other airlines, airline associations and airport management companies interviewed for the study:
- Measures to encourage business aviation at congested coordinated airports would not be an efficient use of capacity, because business aviation uses small aircraft and carries far fewer passengers per flight. It also generally pays lower airport and aeronautical charges, as at most airports charges are related to the size of the aircraft; some airlines suggested that business aviation was cross-subsidised.
 - Due to the need for greater separation on takeoff between business aircraft (which are usually small) and larger aircraft, due to wake vortexes, use of slots at congested airports by business aviation reduces the capacity of the airport in terms of the number of flights that can operate, as well as the number of passengers that can be accommodated.
 - Performance of business aviation was worse than performance of other flights, and therefore disrupts operations at congested airports. There is some evidence to support this: 94% of queries raised with ACL about misuse of slots relate to ad hoc flights (mostly although not entirely business aviation); and at Stansted airport, only 38% of business/general aviation flights operate within 10 minutes either side of their allocated slot time, although this proportion is increasing. However only 2 of 16 sanctions imposed in 2009/10 were on business aviation operators.⁶²
- 10.74 In addition, application of the 80% utilisation criteria in aggregate across business aviation slots, as proposed by business aviation representatives, would be much less onerous than how this rule is applied to other air services. If a scheduled operator fails to operate one slot series 80% of the time it loses that series, even if in aggregate across all its operations it achieves much higher utilisation, and overall, scheduled operators achieve very high utilisation (often 95% or higher) at congested airports. Therefore, the number of movements handled at the airport could be reduced.

⁶¹ Source: Eurocontrol (2009); Business Aviation in Europe. Note that this defines business aviation based on the type of aircraft used.

⁶² Source: Misuse of slots enforcement code report, 2009/10

- 10.75 There is a stronger argument at some of the less congested coordinated airports for Member States having the option of setting capacity aside, in the same way as they set capacity aside for PSO services. A key benefit would be that this would allow business aviation operators to invest in ground facilities knowing that they could utilise them for a given period, which should increase investment and growth in the sector. The State concerned would have to take into account all the implications of doing so, including the implications for the level of other traffic.
- 10.76 However, this is already achieved in some coordinated airports as a result of movement caps which do not apply to general/business aviation operations: Member States are free to determine capacity parameters which reserve slots for business aviation. Where more than one airport serves a city, this can also be achieved by Member States using traffic distribution rules. Therefore, it is not clear that any regulatory change is actually necessary to enable Member States to achieve this.

Estimate of impacts

- 10.77 Reservation of capacity for business aviation would only have a quantifiable impact where capacity was limited, and therefore allocating capacity to business aviation precluded operation of other flights. In other circumstances there might be an impact in terms of improved investment in the business aviation sector but this is not possible to quantify, and in any case is likely to be very small: Eurocontrol data shows that only 2.6% of all business aviation movements are at airports with over 500 movements per day (such as all of the sample airports modelled for this study) and therefore, even if there was improved access to these airports, the impact on the overall size of the business aviation sector would be minimal.
- 10.78 For illustrative purposes we present below the impact of allocation of 1% of slots to business aviation at congested airports where it would prevent other flights from being operated. Where demand is less than capacity, business aviation can obtain ad hoc slots without capacity being reserved and therefore the option would have no impact.
- 10.79 Under these circumstances, the number of passengers transported within the limited capacity would be reduced. For most airports, we were not able to obtain figures for how many passengers are transported on business aviation flights, as these are either not included in regular airport passenger figures, or cannot be distinguished from other passengers in the data. However, data by operator including business aviation operators is available for Spanish airports. For Madrid Torrejón airport, which handles almost entirely business aviation (as well as military) flights, the average number of passengers per flight is 2.4; the figure varies between business aviation operators but is between 2.0 and 2.9 for all of the main operators. This compares to (for example) 127 passengers per flight on commercial flights at Madrid Barajas, and 141 at Heathrow, in 2010. Therefore, for illustrative purposes, we have assumed that the average number of passengers on business aviation flights would be 2.4 at all airports.
- 10.80 The number of air transport movements might also be reduced, for two reasons:
- The slot utilisation that business aviation would achieve would probably be lower than for commercial flights. Eurocontrol analysis shows that business aviation tends to have a shorter working day, and more defined peaks, than commercial

flights. Flights are operated on an ad hoc basis rather than in accordance with daily schedules. Although business aviation might not need slots at off peak periods and weekends, most scheduled flights operate daily and through the day, and therefore allocation of peak slots to business aviation would prevent scheduled flights being operated all week.

- The most common business aviation aircraft are small aircraft such as the BE20 Beechcraft King Air, Cessna Citation and Raytheon Hawker 800. Separation between flights might have to be increased, as, due to wake vortices these aircraft cannot operate immediately after a large commercial aircraft.

10.81 We have assumed that there would be a reduction in the number of flights as follows:

- We assume 80% slot utilisation could be achieved by business aviation, in line with the proposal from EBAA, compared to 90-95% for commercial flights. Although commercial flights only have to achieve an 80% utilisation threshold, as discussed above this is much more challenging than an 80% threshold applied to a sector as a whole, as it is measured on the basis of individual slot series.
- We assume that the separation required would be 50% greater, so each business aviation flight replaces 1.5 commercial flights (where there is not sufficient capacity to accommodate both). This is intended to be an average figure: the gap would be much more than this where a business aircraft followed a very large jet such as a 747, but it should be possible for air traffic management to order aircraft so that this rarely happens. This does not apply at Orly, where the only significant constraint is the annual slot cap, and therefore at Orly each business aviation slot replaces a commercial slot on a one-for-one basis.

10.82 The table below shows the impact on the number of flights, and the number of passengers that could be transported, from allocation of 1% of slots to business aviation where this displaced other flights. There would be no impact where capacity did not exceed demand and therefore this did not displace other flights. It is also assumed that there would be no impact at Düsseldorf as slots are already (in effect) reserved for business aviation and so this would not be a change, and also no impact at Madrid as business aviation is banned from the airport at most times by a traffic distribution rule, which would not be impacted by changes to the slot Regulation.

TABLE 10.8 QUANTIFIED IMPACTS: OPTION B4.1 (1% OF SLOTS ALLOCATED TO BUSINESS/GENERAL AVIATION)

Percentage impact on traffic volumes handled at each airport

		Impact on number of flights operated (%)				Impact on number of passengers (%)			
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025
Dusseldorf	DUS	-	-	-	-	-	-	-	-
London Gatwick	LGW	-0.4%	-0.6%	-0.6%	-0.6%	-1.0%	-1.5%	-1.5%	-1.4%
London Heathrow	LHR	-0.7%	-0.7%	-0.7%	-0.7%	-1.5%	-1.5%	-1.5%	-1.5%
Madrid	MAD	-	-	-	-	-	-	-	-
Paris Orly	ORY	-0.2%	-0.2%	-0.2%	-0.2%	-1.0%	-1.0%	-1.0%	-1.0%
Vienna	VIE	-0.1%	-0.3%	-0.1%	-0.2%	-0.3%	-0.6%	-0.2%	-0.3%

10.83 Table 10.9 summarises the EU-wide impacts.

TABLE 10.9 QUANTIFIED IMPACTS SUMMARY: OPTION C4.1 (ALLOCATION OF 1% OF SLOTS TO BUSINESS AVIATION)

	Modelled airports	Airports >20 million pax	All coordinated airports
Passengers (%)	-0.7%	-0.4%	-0.3%
Flights (%)	-0.3%	-0.1%	0.0%
Passengers (millions)	-2.1	-2.5	-3.4

10.84 Although there would be a reduction in the number of flights operated and the number of passengers transported, there could still be a net economic benefit if the marginal economic contribution of business aviation was substantially greater than the contribution of other flights. A study undertaken for the European Business Aviation Association by PwC showed total economic impact of the sector in Europe as €19.7 billion in 2008⁶³, equivalent to €26,000 per business aviation airport movement. This is high compared to the economic values we have used for marginal passengers transported at slot constrained airports (see appendix 2). However, the approach used by this study is not comparable to the approach used by the studies on which our estimates are based, and the marginal economic contribution of an additional business aviation movement is likely to be much lower than this. Overall it is unlikely that replacing commercial flights which carry, depending on the airport and time of day, 70-200 passengers with flights which carry 2-3 passengers would generate economic benefits.

10.85 Other impacts, including social and environmental impacts, would be relatively low from this option and therefore have been assessed in qualitative terms only (Table 10.10 below).

TABLE 10.10 OTHER IMPACTS: OPTION B4.1 (RESERVE CAPACITY FOR BUSINESS AVIATION)

Impact category	Impact assessment
Emissions	Reduced, as the aircraft are much smaller, and the average flight lengths are shorter (over half of business aviation flights are less than 500km). However emissions per passenger would increase due to the small number of people transported.
Employment	Reduced: According to the figures provided by EBAA, direct and indirect employment by business aviation equates to around 0.13 employees per aircraft movement. This is less than for commercial flights (approximately, 0.20 per movement for congested airports such as these), which implies that employment would be reduced by this policy. ⁶⁴
Noise	Slight reduction, as business flights would use smaller aircraft which make less noise. However noise per passenger transported might increase.
Frequencies and destinations served	Increased, as business aviation tends to serve routes which are not directly served by scheduled airlines. However, impact limited, as business aviation

⁶³ PwC (2009): The economic impact of business aviation in Europe

⁶⁴ We have sought to use figures as comparable as possible, but the sources and approaches used by the studies we have drawn on are different, and therefore this comparison should be considered indicative only. Induced employment is excluded from the figures for both business and commercial aviation.

	flights are not available to most passengers.
Punctuality and reliability	Slight increase in delays, due to need for increased separation between business aviation flights and other aircraft.

Conclusions

- 10.86 It would clearly not be an economically efficient use of capacity for slots to be reserved for business aviation at the most congested hub airports, such as Heathrow, as this would significantly reduce the capacity of the airport both in terms of the number of movements handled and the numbers of passengers handled.
- 10.87 Although there is a stronger argument that Member States should at least have the option of reserving capacity for business aviation, this would only have a quantifiable impact where this resulted in the operation of fewer commercial flights – which, again, is unlikely to be economically efficient. In addition States already have the option of using traffic distribution rules and local restrictions on airport capacity to achieve this objective if they want to (for example, by imposing movement limits that do not apply to business aviation).

Option B4.2: Amend definition of business aviation

- 10.88 Article 2(f)(i) defines that air carriers should also include business aviation operators where these operate according to a schedule. One coordinator, ACL, interprets this to mean that business aviation flights can only be eligible for historic preference where it operates a series of slots at the same time and on the same route. Other coordinators consider that where business aviation applies for and operates a series of slots this should also be eligible for historic preference, provided it is at the same time but not necessarily the same route. This inconsistency could be addressed by replacing the words ‘operate according to a schedule’ with the word ‘operates according to a schedule, or operates programmed non-scheduled services’.
- 10.89 This change would address one area where the current Regulation is unclear and leaves scope for different interpretations, and would also make the Regulation more consistent in its treatment of business aviation and other flights. However, in practice, this change would probably have no impact at all: business aviation has not succeeded in obtaining historic preference at European airports where the coordinator already adopts this interpretation, because its operations are ad hoc, and therefore it very rarely requests series of slots.
- 10.90 In addition, in any cases where this did have an impact and business aviation was able to obtain historic preference as a result of having operated a series of slots, this might not be an efficient use of the airport capacity, for the reasons discussed above. Therefore, we suggest that no change is made. Member States already have tools by which they can reserve capacity for business aviation if this is appropriate in the specific circumstances of an airport; the fact that at most congested airports they have not done so indicates that they do not believe that this is an appropriate use of constrained capacity.

Option B5: Airport management body to have the right to refuse that an aircraft land if it does not have a slot

- 10.91 The option discussed with stakeholders in interviews was to amend Article 14(1) to give the airport managing body the right to refuse to allow an aircraft to land if it does not have a slot, except in an emergency. The public consultation document asked a more general question, which also covered granting this power to the central flow management unit.
- 10.92 Data provided by coordinators shows that operations without a slot are rare and many thought the numbers to be declining (see section 4 above). Most States have implemented sanctions for no slot and deliberate off slot operations and most stakeholders interviewed for this study considered that these had been effective as a deterrent.
- 10.93 Many stakeholders, including many airports, argued that the airport managing body was not the appropriate body to make operational decisions about whether a flight should land. The coordinator is defined by the Regulation as being the sole body responsible for slot allocation, and only the air traffic management authorities have access to flight plans; there is limited benefit from introducing a third party. Many also argued that it was better to refuse to accept a flight plan than for an aircraft to be refused permission to land, as once an aircraft is in the air, there may be limited alternative available.
- 10.94 Some airports argued that it should be possible to reject flights plans on the basis that they are off slot by more than a few minutes, as well as operations without a slot. However, coordinators considered that this would in effect require the airline to re-clear every slot in the event of operational disruption, which would be impractical for both airlines and coordinators. This would be practical for ad hoc flights but not for scheduled flights and programmed charter flights.
- 10.95 Nonetheless, two (relatively minor) changes may improve the operation of this Article, which we have classified as option B5.2:
- it could be clarified that a flight plan should only be rejected after consultation with the coordinator; and
 - it could be clarified that the coordinator should provide information on cleared airport slots to the air traffic management authorities if requested.

- 10.96 These changes primarily serve to clarify the existing Article. As we would still expect this to be used very rarely, and only where off-slot operations were enough of a problem to make *ex ante* monitoring worthwhile, we have not quantified costs of doing this.

Option B6: Coordinators to collect data on planned traffic, on behalf of the Network Manager

- 10.97 The Single European Sky II (SESII) package is an ambitious package of reforms to the European air traffic management system, designed to improve its performance, in terms of cost-efficiency, capacity, environmental performance and safety. The most radical change is that EU-wide performance targets have been set, and States are

required to set binding national targets for cost-efficiency and capacity that are consistent with the EU-wide targets. In addition, a network manager is to be appointed to plan the European ATM network. Airports are a key element of the network and need to be integrated within this if high performance is to be delivered on a gate-to-gate basis.

- 10.98 Slot coordinators collect data on airline schedules which, as part of SESII, could be useful to the Network Manager in planning the European route network. The data collected by coordinators is already provided to Eurocontrol. However, its usefulness is limited by the fact that it does not cover all airports:
- in some Member States (such as the UK and Denmark), the coordinators collect data for some airports that are IATA level 1, i.e. neither coordinated nor schedules facilitated, but there is no obligation on operators to provide data and therefore it is collected late and it is not clear whether it is up-to-date.
 - in other Member States coordinators do not collect data for other airports.
- 10.99 In addition, collection of data for level 1 airports could facilitate emergency short-term coordination of these airports, for example when an adjacent airport is closed, or during exceptional circumstances such as the volcanic ash crisis, which resulted in substantially increased traffic at airports on the edge of the no-fly zone, or the snow crisis in December 2010, which also resulted in significant increases in demand at those airports which were still open. Article 3(6) of the Regulation allows for this but application of this is hampered by the fact that coordinators do not generally have data to enable coordination of these airports.
- 10.100 Coordinators should only collect data for the airports which the Network Manager determines are of relevance to the planning of the European route network. As the Implementing Rules on the Network Manager have not yet been approved by the Single Sky Committee, it is not clear yet exactly what form this will take or what would be required. Nonetheless, if the Regulation was to be amended now, it could be amended to:
- require coordinators to collect data for ‘Network airports’ designated by the Network Manager, even where these are not coordinated or schedules-facilitated;
 - require coordinators to provide this data to the Network Manager; and
 - require operators to provide this data to the coordinator and allow sanctions to be imposed if the operators fail to provide data, or provide misleading data (this change is already proposed as part of option B3.3 above).
- 10.101 At least initially, these provisions may not be used, but making these amendments as part of a broader revision to the slot Regulation would allow this option to be activated by the Network Manager when this becomes useful.
- 10.102 If the Network Manager designated as Network Airports in States such as Estonia or Latvia which did not already have a coordinator or schedules facilitator, these States would need to designate a body to undertake this task. However, this should not require the creation of any new organisation, as one of the existing coordinators could be designated, in the same way as Ireland has designated ACL as its coordinator and Iceland has designated Airport Coordination Denmark.

Estimate of impacts

- 10.103 It is not possible to quantify the benefits which could be obtained from this, as this would depend what the Network Manager did with the data, and is part of the wider benefits to be obtained from the Single European Sky II package, which is not within the scope of this study. However, there would be some costs for the coordinator in the collection of data for the airports that the Network Manager designated as Network Airports, which can be estimated.
- 10.104 If half of level 1 airports were designated as Network Airports by the Network Manager, we estimate the total cost of data collection would be around €2.2 million per year. This cost would need to be recovered from users, either through en-route charges, or through coordinators' fees. This is an administrative cost and approximately 80% (€1.8 million) would be an administrative burden as most coordinators do not already undertake this activity. A breakdown of the costs is provided in Appendix D.
- 10.105 The costs to airlines of providing this data should be minimal, as they already provide extensive slot/schedule data to coordinators and provide schedule data to other parties (such as airports, booking systems, etc).

Option C6: Increased flexibility for local guidelines

- 10.106 This option is to amend the Regulation to allow wider criteria than efficient use of capacity (such as environmental or regional considerations) to be employed when undertaking primary allocation of slots. There would be more flexibility for coordination committees to decide these criteria, subject to some requirements that criteria could not be unfairly discriminatory between carriers. In order to support this, representation on coordination committees could be extended, for example to include regional authorities.
- 10.107 There has been at least one case where a local rule which arguably was appropriate given the specific situation at the airport concerned has had to be withdrawn on the basis that it was not consistent with the Regulation. Gatwick airport's coordination committee proposed to extend the minimum length of a series of slots to prevent short series in peak summer preventing other airlines from launching year-round services; this rule would have led to more efficient capacity utilisation but had to be withdrawn. However, there have also been cases where regional authorities have attempted to impose controls on coordination which would have been discriminatory and not led to improved efficiency, for example the law introduced in Lombardy in 2007 (see section 4).
- 10.108 This section considers separately the use of local guidelines to reflect:
- regional objectives;
 - local pollution constraints;
 - greenhouse gas emissions; and
 - other issues.

Regional objectives

- 10.109 As capacity at the most congested airports becomes more scarce, it is likely that short distance regional services will be withdrawn to free capacity for longer distance services that typically use larger aircraft. This has already happened at Heathrow, Frankfurt and (to a lesser extent) at other airports. One way to address this would be to allow regional accessibility to be an explicit coordination criteria.
- 10.110 However, airlines and airline associations expressed a number of concerns about giving regional authorities any input into coordination decisions. Even stakeholders that supported more flexibility being allowed in local rules opposed any involvement of regional government in coordination committees. The key issues are:
- there would be a strong risk that decisions would not be made on the basis on the most efficient use of scarce capacity (this is already shown at Orly where more than 10% of slots are reserved for PSO services);
 - there might be increased risk of slot allocation being discriminatory (for example, favouring specific carriers);
 - the approach to coordination would be inconsistent at different EU airports, which would be disruptive;
 - the system could become unworkable with multiple regions being represented: it could be argued, for example, that at an airport such as Schiphol, regions in the UK, France, Belgium, Denmark and Germany should be represented as well as Dutch regions;
 - depending on the political structures of each Member State, different levels of authorities would be appropriate (for example there is no regional government in most of the UK); and
 - regional accessibility can already be addressed through the PSO mechanism defined in Article 9; not all regional services are covered by PSOs, but more extensive provisions to allow safeguard of regional services were removed by Regulation 793/2004.
- 10.111 One of the main concerns raised about independence of coordinators was potential interference from local and national government. It would not be consistent with maintaining the independence of coordinators for an enhanced role in coordination to be given to regional government. Therefore we recommend that this option is not taken forward.
- 10.112 Nonetheless, an inevitable consequence of the growing gap between demand and capacity at some congested hubs (particularly Heathrow) is that regional services will be withdrawn. In recent years a number of UK regional airports, such as Leeds/Bradford and Teesside, have lost their flights to Heathrow, and the number of flights to some other short haul destinations has been reduced. We would expect the same to occur at other European hubs where congestion increases, although more regional services will be able to operate to/from Frankfurt when it expands. The two options to address this would be:
- Governments could be permitted to reserve capacity at airports for regional services. This would be similar to the position before the 2004 amendment to the Regulation but could be made subject to conditions, for example that the operator

for the service concerned is procured on a competitive basis (potentially with the operator paying a premium rather than receiving a subsidy as for a PSO route).

- Regional authorities could be permitted to buy slots on the secondary market for specific routes, enabling them to achieve flights from congested hubs to regional airports whilst covering the congestion costs of doing so.

10.113 Neither of these solutions would be consistent with the objective of ensuring economically efficient use of capacity, and any quantified economic assessment would show these to have a negative impact. However, they would be the only way of meeting the objective of ensuring regional accessibility is maintained, and therefore it is essentially a political judgement as to whether this is appropriate.

Local environmental and noise objectives

10.114 Local noise criteria are already incorporated in the coordination parameters and local rules at EU airports, and are therefore taken into account in slot allocation: in particular, there are limits on operations at night at many airports. As identified in section 4 above, it can be unclear what should be considered as a coordination parameter and what should be considered a local rule. Similar restrictions on night flights are considered coordination parameters at German airports, but local guidelines at UK airports. At airports such as Heathrow and Madrid, the noise quota for night flights is allocated by the coordinator in the same way as any other element of restricted capacity.

10.115 We have not found any examples of local emissions criteria being taken into account in slot allocation. However, if an airport had a local emissions limit, there is no reason why this could not be allocated between carriers by the coordinator in the same way as noise quotas currently are, or any other capacity parameter. The Regulation already explicitly allows for this.

10.116 One potential limitation is that the Regulation could be interpreted not to allow slots to be withdrawn if noise or emissions quotas are exceeded. Article 14(4) allows slots to be withdrawn if an airline uses ‘*slots in a significantly different way from that indicated at the time of allocation and thereby cause prejudice to airport or air traffic operations*’. It could be argued that exceeding a noise quota does not cause prejudice to airport operations and therefore a coordinator could not withdraw slots. In our view this argument is weak – particularly if an airport faces a total noise or emissions quota, and therefore the number of operations permitted is reduced as a consequence of one airline exceeding its allowance. However, the Article could be clarified to avoid this risk, for example by removing the reference to causing prejudice to airport or air traffic operations (we propose this is taken forward as part of a general revision to Article 14, which we covered above, as option B3.3).

Greenhouse gas emissions

10.117 We have also evaluated whether greenhouse gas emissions could be taken into account in slot allocation. However, slot allocation is likely to be an ineffective means of addressing this, because:

- it makes no difference whether emissions are generated on flights to/from

congested airports, which are impacted by slot allocation, or other airports which are not;

- most emissions will be generated by flights for which the airline has historic rights to the slot, and therefore slot allocation has no impact on these emissions; and
- it is not clear whether slot allocation should favour the lowest emissions per passenger kilometre, which would mean favouring large aircraft operating long haul, or the lowest emissions per slot, which would mean favouring smaller aircraft operating short haul.

10.118 Therefore we recommend that the objective of reducing greenhouse gas emissions should be achieved through measures such as the Emissions Trading Scheme or carbon taxes. These are likely to be much more effective in reducing emissions as the price paid is directly proportional to the amount of emissions generated.

Other criteria

10.119 Some airport representatives suggested that it should be possible for local rules to require the coordinator to favour particular types of services – such as flights with larger aircraft, or flights to specific destinations that the airport management company believed should be developed. This would require local guidelines to be able to derogate from the approach and criteria for slot allocation defined in the Regulation. However, local rules that did this would infringe the principle of neutral, non-discriminatory allocation by the coordinator, which all stakeholders claimed to support. Therefore, we do not recommend that this should be permitted.

Conclusions

10.120 Relatively few local guidelines have been introduced, and some that have been proposed were not consistent with the principle of neutral and non-discriminatory slot allocation. In addition, similar restrictions have been described as local guidelines at some airports but capacity parameters at other airports, and therefore it is not clear that any flexibility is obtained by the principle of local guidelines. Therefore, we have considered whether the current reference in the Regulation to local guidelines is redundant.

10.121 However, some local guidelines do serve a useful purpose in explaining how specific capacity issues should be handled at specific airports. Examples of these would include the local guidelines on the approach to implementation of the night noise limit and the annual movement cap at Heathrow. These local guidelines are not intended to provide any flexibility in the criteria that the coordinator has to follow in slot allocation (and cannot do so if they are to be consistent with the Regulation), but are useful in that they set out clearly and transparently how the coordinator will implement the specific capacity limits at the airport. Therefore we recommend that the reference to local guidelines should not be amended.

Option B7: Protect regional services

10.122 We have considered two options which would allow regional services to be protected:

- Option B7.1: In the event of secondary trading being introduced, public authorities could be permitted to purchase slots on the secondary market, to ensure these were

available for a regional service

- Option B7.2: Member States could be permitted to reserve slots for non-PSO regional services.

Option B7.1: Allow public authorities to purchase slots on the secondary market

10.123 At present, slots can only be held by airlines, and public authorities probably could not pay for slot acquisitions by airlines, because this would be state aid. If secondary trading was introduced, public authorities could be permitted to purchase slots on the secondary market. The public authorities could be regional government but this would depend on the Member State concerned; in some States it might be national or local governments, or other public agencies, such as regional development agencies. This would be a means for them to ensure regional services could be maintained whilst covering the congestion costs of doing so.

10.124 We do not recommend this option, because slots purchased by public authorities would be allocated to services which would not be the most economically efficient users of the capacity concerned (if they were the most economically efficient users, it should be possible for the airline to buy the slot anyhow). There is a risk that a significant proportion of capacity at some congested airports could be purchased by authorities keen to ensure regional links, and this would displace other air services from the airports concerned.

10.125 However, this is one of few options to protect regional services, and (compared to option B7.2 discussed below) at least has the advantage that the public authorities concerned would have to pay for the slots, and therefore would have to take into account the congestion costs of acquiring slots. If a political decision was made to do this, we suggest that the Regulation should also require the public authorities concerned to procure the operator of the services through a competitive tender. As a regional service to/from a congested airport may still be profitable (excluding the cost of the slot acquisition), the airlines bidding to operate the service might offer a premium payment to the public authority, which would partly offset the cost of acquiring the slots.

Option B7.2: Allow reservation of slots for regional services

10.126 An alternative option to protect regional services could be to allow Member States to reserve slots for these. At present, slots can be reserved for PSO services only. Article 9(1) of the original Regulation 95/93 allowed Member States to reserve slots for other domestic regional services, but this right was removed as part of the 2004 amendments to the Regulation.

10.127 This would be an alternative way of protecting regional services, but we do not recommend it, for the following reasons:

- regional services, which tend to use small aircraft, are unlikely to be the most economically efficient users of scarce capacity at the most congested airports;
- there is a risk that this could be abused to protect specific airlines from competition (for example by reserving slots to prevent them being transferred to potential new entrants); and

- this option is of no assistance to regions not within the same Member State as the congested airport (as the UK would not reserve slots for regional services to Ireland, etc).

Option C7: Amend the new entrant rule

10.128 We have considered two options for amendment to the new entrant rule:

- Option C7.1: Increase the number of slots that a carrier may hold whilst still being considered a new entrant
- Option C7.2: Replace the new entrant rule with a rule giving priority to carriers other than the dominant carrier at the most congested airports

Option C7.1: Increase the number of slots that a carrier may hold whilst being considered a new entrant

10.129 The Regulation currently requires that 50% of pool slots be allocated to new entrants. A new entrant is defined as being an air carrier which, if the slot was granted, would hold less than 5 slots on the day concerned, and/or is applying to operate a service on an intra-EU route with limited competition and where it would operate at most two rotations per day (less than 5 slots). First preference is given to new entrants that meet both criteria.

10.130 The analysis indicates that the new entrant rule has not been successful in reducing market concentration at the most congested airports. It has little or no impact at the less congested airports because carriers will not invoke new entrant status if they can obtain slots without doing so, due to the restrictions attached to changes in use of new entrant slots. At congested airports, new entrant slots are often given to smaller carriers for infrequent services who may cease to operate the service, or even sell the slot to another carrier, relatively soon afterwards. Our analysis showed that at the most congested airports, around half of new entrant slots were not retained by the new entrant two years after allocation, and the utilisation of new entrant slots is significantly less than the utilisation of other slots. In addition, at most EU airports, less than 50% of slots are actually allocated to new entrants; coordinators said that this was because there are not enough new entrant slot requests which are at times which can be granted.

10.131 Airlines with a larger number of slots at an airport are likely to provide more effective competition with dominant incumbent airlines. This has been recognised by the Commission when airlines have been required to give up slots as a condition of mergers or joint ventures.

10.132 We have identified a number of further problems with the new entrant rule:

- Owning groups that include several airlines can obtain additional slots at congested airports using the new entrant rule even if they have a substantial share of slots, by applying through a carrier that they own which has few or no slots at the airport. This allows some carriers to circumvent the rule. Whilst we have only identified one airport at which this has occurred, we have limited historical data for new entrant allocations at some other congested airports and therefore there is a risk that this could have occurred more often.

- The current Regulation could be interpreted to require that exactly 50% of slots be granted to new entrants, and 50% to incumbents (for example, this is the interpretation followed in France). A requirement that exactly 50% is allocated to new entrants could lead to fragmentation of the slot pool.
- The term ‘airport system’ is no longer defined in EU law, although it is intended that a definition will be reintroduced through a codified version of the Regulation. In addition, the Regulation currently defines that a carrier cannot be a new entrant when it has over 4% of the slots in an airport system: however, where a city has an airport which is likely to be some airlines’ first choice, but they have to use another airport because of a lack of slots (as is the case in London and Paris), it is not clear why these airlines should not get new entrant priority if slots do become available at their first choice airport.
- The overall limit of 5% of slots at an airport, which applies even if the route-specific criteria are met, prevents airlines from using new entrant slots to grow to a position in which they can seriously challenge a main incumbent across a significant proportion of its operations. For example, this means that easyJet would not be able to obtain new entrant slots to further expand at Orly (if easyJet UK and easyJet Switzerland were counted together), even if the route-specific criteria were met, despite the fact that it has 6% of slots compared to the Air France Group’s 52%.
- Two rotations per day are not sufficient to be a serious and viable competitor on an intra-EU route, particularly a route to/from a major hub airport. For example, between Frankfurt and Heathrow, Lufthansa operates ten flights per day and British Airways seven; an airline with two flights per day would not be able to offer serious competition with these airlines.

10.133 We have considered the impact of making a number of changes to the new entrant rule. We propose that the following significant changes should be made:

- **Measurement by owning group not carrier:** Airlines using new entrant status to obtain slots even when other airlines in the same owning group have significant slot holdings defeats the purpose of the new entrant rule. To address this, the number of slots held should be measured for an airline owning group, not for an individual air carrier. Negative impacts that this could have on certain new entrants would be offset by the changes to the thresholds discussed below. We have considered if the limit should be defined in terms of airline codeshares or alliances, but have concluded that this is impractical due to the varied nature of airline commercial arrangements: for example, it would not be reasonable to prevent Virgin Atlantic from receiving new entrant slots at Heathrow just because it has (generally quite limited) codeshares with Star Alliance carriers. In principle, the strongest form of airline co-operation (joint ventures) could be counted together, and therefore the limit could be defined in terms of ‘airline owning groups and any joint venture partners’. However joint ventures might be difficult to define, and this would limit the scope for new entry by carriers which also have joint ventures with larger carriers⁶⁵.
- **Increase number of rotations permitted:** The number of rotations per day permitted on intra-EU routes should be increased to enable a new entrant to offer

⁶⁵ This issue is to be discussed with the European Competition Authorities. For this reason this report is neutral as to whether joint ventures should be included in this definition.

sufficient frequency on a route to offer meaningful competition on that route with a dominant incumbent. In order to assess what level would be necessary, we have looked at a number of major intra-Community routes on which a relatively new airline has operated successfully in competition with a dominant incumbent. We have found that, where incumbents offer frequent services, particularly on routes with a significant proportion of business passengers, successful competitors which have stayed in the market for a prolonged period have generally offered 4-5 flights per day⁶⁶. Therefore we suggest that if the threshold should be increased to allow four rotations on a route ('less than nine slots').

- **Non-EU routes:** It should be possible to obtain new entrant status for extra-Community routes on the same basis as intra-EU routes. However, as these would generally be long haul, it is not necessary to have four daily frequencies to offer meaningful competition and therefore the limit could be at two daily frequencies (and therefore the Regulation should refer to 'less than five slots').
- **Increase overall share of slots permitted:** A carrier can never be considered a new entrant if it has more than 5% of slots at an airport. We suggest that this should be replaced with a limit applying to an airline owning group, and suggest a limit of 10%. This would be sufficient to allow an owning group to build up a major slot holding. A limit of 10% would allow new entrant status to be obtained by easyJet at Orly, if the route-specific criteria were met, but would prevent the Lufthansa Group, which includes BMI, from using the new entrant rule to obtain further slots at Heathrow. In our view this is reasonable; given Lufthansa/BMI has a substantial share of slots.
- **Remove criteria that carrier always a new entrant if it has less than 5 slots:** At present an airline would always be considered a new entrant if it has less than 5 slots (i.e. less than two daily rotations), and if it meets one of the other criteria as well, priority would be given to it over other potential new entrants. This favours carriers with very small slot holdings and means that, at an airport such as Heathrow where there would be far more airlines seeking new entrant slots than new entrant slots available, those few available are given to the smallest airlines, and therefore this rule is likely to lead to a fragmented service offer and ineffective/weak competition. Therefore, we suggest that this should be removed.

10.134 We also suggest that the following minor changes should be made:

- it should be clarified that at least 50% of slots should be allocated to new entrants; and
- for the reasons discussed above, the limitation on carriers receiving new entrant slots if they already have 4% of slots in the 'airport system' should be deleted.

10.135 We have tested the impacts of this option for two scenarios:

- allocation of slots returned to the pool under normal circumstances; and
- allocation of pool slots in case that there is a substantial increase in capacity at a very congested airport (the scenario tested is introduction of mixed mode at

⁶⁶ For example, easyJet now offers 4-5 daily flights on the routes from London Gatwick to Amsterdam, Rome, Milan, Madrid, Edinburgh and Glasgow (some of the largest short haul routes from London, in terms of passenger numbers) and 5-6 daily flights on the routes from Paris Orly to Nice and Toulouse (the largest domestic routes in France).

Heathrow).

Estimate of impacts – slots returned to pool

- 10.136 This section sets out the evaluation of the changes to the new entrant rule under normal circumstances, where it is only used to reallocate slots returned to the pool, or unused slots in the pool.
- 10.137 As with the other options, changes to the new entrant rule would only have an impact where demand for slots exceeds capacity. As identified in section 5 above, when demand does not exceed capacity, airlines do not claim new entrant status, because slots awarded under the new entrant rule are subject to conditions and they do not need to claim this status in order to obtain slots. Changes to the new entrant rule would also have limited impact at Heathrow, as most new slots at Heathrow are obtained through secondary trading rather than through the pool. Changes to the new entrant rule would have most impact at Paris Orly, as there is no secondary trading at this airport. In the future, as demand increases, the new entrant rule could also become increasingly important at Düsseldorf in the scenario that secondary trading is not introduced.
- 10.138 We have evaluated whether changes to the new entrant rule would have a quantifiable impact in terms of the types of flights operated, aircraft sizes, or utilisation at a congested airport. In order to do this, we compared the use of slots that have historically been granted on the basis of new entrant status with other new slots that have been granted (new incumbent) and other allocated slots at the airport. If the rule was changed as suggested, it would be expected that the use of the new entrant slots would be more similar to that of the new incumbent slots (except in terms of the airline that would use them). As set out in section 5 above, at the airports analysed:
- average aircraft sizes are similar for new entrant and new incumbent slots (see section 5 above); but
 - particularly at the London airports, new entrant slots are more likely to be used for long haul services than new incumbent slots;
 - utilisation is significantly lower for new entrant slots; and
 - load factors are lower for new entrant slots.
- 10.139 We would expect long haul services to continue to obtain a higher share of new entrant slots, as the short haul networks at congested EU airports are disproportionately operated by the main hub carrier. Therefore, the only quantifiable impacts would be the small improvements in utilisation and load factors. The changes we propose, by allowing new entrant slots to be allocated for more viable services, would eliminate part of the difference between new entrant and other slots. For the estimated impacts below, we have assumed 50% of the difference is eliminated (not all would be, as in some cases new entrant slots could be unattractive for other reasons – for example, because they are not available at peak times).
- 10.140 This impact on the number of flights and passengers, and the consequent economic and social impacts, are shown below. This analysis shows that there would be some social and economic benefit from amendment to the new entrant rule, but these are all very small, because at the most congested airports few slots are allocated through the

new entrant rule. Potential impacts on competition are discussed further below.

TABLE 10.11 QUANTIFIED IMPACTS: OPTION C7.1 (AMEND THE NEW ENTRANT RULE)

Percentage impact on traffic volumes handled at each airport

		Impact on number of flights operated (%)				Impact on number of passengers (%)			
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025
Dusseldorf	DUS	0.03%	0.03%	0.03%	0.03%	0.06%	0.06%	0.06%	0.06%
London Gatwick	LGW	0.05%	0.05%	0.05%	0.05%	0.09%	0.09%	0.09%	0.09%
London Heathrow	LHR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Madrid	MAD	0.01%	0.01%	0.01%	0.01%	0.04%	0.04%	0.04%	0.04%
Paris Orly	ORY	0.02%	0.02%	0.02%	0.02%	0.04%	0.04%	0.04%	0.04%
Vienna	VIE	0.03%	0.03%	0.03%	0.03%	0.10%	0.10%	0.10%	0.10%

Economic impacts

		Airline operating costs (€ 000s)					Other direct costs (€ 000s)				
		2012	2017	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	-	-	-	-	-	-	-	-	-	-
London Gatwick	LGW	-	-	-	-	-	-	-	-	-	
London Heathrow	LHR	-	-	-	-	-	-	-	-	-	
Madrid	MAD	-	-	-	-	-	-	-	-	-	
Paris Orly	ORY	-	-	-	-	-	-	-	-	-	
Vienna	VIE	-	-	-	-	-	-	-	-	-	
		Economic benefits (€ 000s)					Net economic benefits (€ 000s)				
		2012	2017	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	283	346	422	360	3,684	283	346	422	360	3,684
London Gatwick	LGW	685	788	860	790	8,164	685	788	860	790	8,164
London Heathrow	LHR	63	67	75	69	711	63	67	75	69	711
Madrid	MAD	498	590	767	624	6,377	498	590	767	624	6,377
Paris Orly	ORY	252	276	317	284	2,930	252	276	317	284	2,930
Vienna	VIE	508	614	852	663	6,748	508	614	852	663	6,748

Social impacts

		Airport employment (FTEs)				Airline and handling agent employment (FTEs)			
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025
Dusseldorf	DUS	9	10	13	11	11	14	19	15
London Gatwick	LGW	21	24	26	24	43	50	56	50
London Heathrow	LHR	2	2	2	2	8	8	10	9
Madrid	MAD	15	18	23	19	27	33	46	36
Paris Orly	ORY	8	8	10	9	10	11	13	11
Vienna	VIE	15	19	26	20	21	27	41	30

Other quantifiable impacts

		Impact on air fares (%)				Impact on CO2 emissions (000s tonnes of CO2)			
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025
Dusseldorf	DUS	-0.1%	-0.1%	-0.1%	-0.1%	1.9	2.4	2.9	2.4
London Gatwick	LGW	-0.1%	-0.1%	-0.1%	-0.1%	7.3	8.1	8.3	8.0
London Heathrow	LHR	-0.0%	-0.0%	-0.0%	-0.0%	1.3	1.4	1.5	1.4
Madrid	MAD	-0.0%	-0.0%	-0.0%	-0.0%	4.7	5.5	7.1	5.8
Paris Orly	ORY	-0.0%	-0.0%	-0.0%	-0.0%	1.7	1.8	1.9	1.8
Vienna	VIE	-0.1%	-0.1%	-0.1%	-0.1%	3.9	4.7	6.5	5.1

10.141 Table 10.12 summarises the estimated impacts, across both the modelled airports and extrapolated to other EU airports. Again, at all of the other airports, the quantifiable impacts are very small, because few slots are allocated through the new entrant rule, and the characteristics of operations with new entrant slots are not substantially different from the characteristics of operations with other slots.

TABLE 10.12 QUANTIFIED IMPACTS SUMMARY: OPTION C7.1 (REVISED NEW ENTRANT RULE)

	Modelled airports	Airports >20 million pax	All coordinated airports
Passengers (%)	0.1%	0.0%	0.0%
Flights (%)	0.0%	0.0%	0.0%
Passengers (millions)	0.1	0.3	0.5
Airline operating costs (€ million NPV)	0.0	0.0	0.0
Direct implementation costs (€ million NPV)	0.0	0.0	0.0
Economic benefits (€ million NPV)	28.6	70.9	124.9
Net economic benefits (€ million NPV)	28.6	70.9	124.9
Airport employment (000 FTEs)	0.1	0.2	0.4
Airline employment (000 FTEs)	0.2	0.4	0.6
Fares (%)	-0.1%	0.0%	0.0%
CO2 emissions (tonnes, 000s)	25	59	102

Note: Financial values presented as net present value (NPV) of costs/benefits 2012-25. Non-financial values (passengers, emissions etc) presented as annual average values 2012-25.

10.142 The qualitative assessment of other impacts is shown below.

TABLE 10.13 OTHER IMPACTS: OPTION C7.1 (REVISE NEW ENTRANT RULE)

Impact category	Impact
Noise	Increase, but negligible - as a result of slightly more flights from major airports
Frequencies and destinations served	Possible slight reduction in destinations served, as new entrant flights more likely to be on routes which already have at least some flights from the airport However, this would be offset by a slight increase in frequencies on some established routes
Punctuality and reliability	Slight improvement, as current new entrant services more likely to be cancelled

10.143 We have also sought to identify whether changes to the new entrant rule would have a quantifiable impact on market concentration (measured in terms of share of slots) at the sample airports. This would be most likely at Düsseldorf and Orly: at Gatwick market concentration is low in any case, and at the other airports the rule has few impacts (at Heathrow because few slots are allocated through the pool, and at Madrid and Vienna because capacity is not constrained at most times). However, we have found that revisions to the new entrant rule probably would not have quantifiable impacts on market concentration, even at Orly or Düsseldorf:

- At Orly, the dominant carrier (Air France) and other carriers in the Air France-KLM owning group or operating on its behalf have only been allocated 1.8% of all new slots allocated since 2002. Therefore, the weaknesses with the current new entrant rule have not led to Air France being able to increase its slot holding at Orly, and therefore have had a quantifiable impact on market concentration.
- At Düsseldorf, we only have data for two seasons (W09 and S10) and therefore the results are less clear. However, for this period, only 11% of new slots allocated were granted to the most dominant carrier, Lufthansa and its partners such as Swiss and Austrian. It would still be possible for it to have been granted these slots if the rule was revised. Therefore, the weaknesses with the new entrant rule do not appear to have led to Lufthansa gaining a higher slot share at least for the

limited period for which we have data.

- 10.144 Nonetheless, although there is no evidence on which to quantify the impact the proposed revisions to the new entrant rule would have on market concentration (measured in terms of share of slots allocated) at the sample airports, it could still have an impact, by allowing more **effective** competitors to gain slots. This could result in reduced concentration if measured in terms of numbers of passengers. The changes we propose would increase the chance that a new entrant carrier obtained enough slots to offer commercially viable and therefore sustainable competitive services at congested airports.
- 10.145 Under normal circumstances, this option should not generate any implementation costs as the allocation of slots to new entrants and other airlines is part of the regular activity of the coordinator – the change would only impact which airlines the slots were allocated to.

Estimate of impacts – expansion of capacity

- 10.146 We have also evaluated whether a change in the new entrant rule would have a significant quantifiable impact in the event that capacity was expanded at an airport. As for the scenario in which an auction is used to allocate new capacity (option C3/C4), this is tested for the introduction of mixed mode operation at Heathrow, which is assumed to deliver a 10% increase in capacity.
- 10.147 As discussed above, there is no evidence that new entrant slots are used in a way which is significantly different in terms of flight type or aircraft type from other newly allocated slots. However, at congested airports such as Heathrow, this partly reflects the fact that very few new entrant slots are granted; the results might be different if a large number of slots were allocated through the new entrant rule, as would happen after capacity was expanded, because there would be differences in the airlines to which slots were allocated. In any case, utilisation and load factors should be higher for new entrant slots if the rule is revised to allow more commercially viable services to acquire these slots.
- 10.148 If the new entrant rule was not revised, new entrant slots would generally go to airlines with very small slot holdings at the airport for operation on secondary routes, which did not currently have services. If the new entrant rule was revised it would be possible for the following types of slot allocation to occur:
- Virgin Atlantic would be able to obtain slots to increase frequencies on routes it already serves to twice daily, and to launch new routes. With the current new entrant rule, it would never be considered a new entrant except on intra-Community routes (it operates long haul only). If capacity was expanded and the new entrant rule was not revised, there is even a risk that it might launch infrequent short haul flights on secondary routes in order to gain new entrant slots, and then transfer these slots after two years to other routes; this would be an inefficient use of capacity for the two years. Overall, Virgin Atlantic would probably be the biggest beneficiary at Heathrow from the changes we have proposed to the new entrant rule.
 - US-based carriers would be able to obtain slots for services to their hubs where these were currently less than two daily rotations on the route. Most of these

allocations would not be possible with the current new entrant rule, as they would be capped at two daily rotations across all routes. For example, US airlines would be able to obtain slots to serve its hubs such as Charlotte which are not currently served, and increase its frequency to twice-daily on the one route it does currently serve (Philadelphia). Delta would be able to obtain slots to increase frequencies to twice-daily on the routes to its hubs at Detroit, Minneapolis-St Paul and Atlanta, and introduce flights to hubs not currently served such as Memphis and Cincinnati. This would enable these carriers to offer significantly stronger competition to the British Airways-American Airlines alliance.

- Other non-EU airlines would be able to obtain slots to launch new routes or increase frequencies on existing routes to twice daily. This is only possible at present if they have less than two daily rotations from the airport. Airlines that would be able to obtain slots for new daily services which could not with the current new entrant rule include Kingfisher and Jet airlines (India) and TAM (Brazil)⁶⁷. In addition airlines such as Singapore Airlines and Emirates, which would still not be counted as new entrants on routes to their hubs, might be able to obtain slots for fifth freedom services beyond Heathrow – as they operate fifth freedom services beyond some other European airports.
- EU airlines would be able to obtain slots to increase frequencies on routes where they currently have less than 4 daily rotations. Airlines that might benefit from this include Olympic (to Athens) and Air France (to airports other than CDG). With the current new entrant rule some EU airlines could obtain slots but these would be limited to a few secondary routes: for example there could be increases to twice daily on the Bulgarian Airlines route to Sofia and the TAROM route to Bucharest.
- Major low cost airlines would be able to obtain new entrant slots. At present easyJet and Ryanair would not be able to do so as they have more than 4% of slots in the London airport system. However in practice easyJet and Ryanair might not wish to operate from Heathrow, even if they could obtain slots, due to the longer turnaround times and impact on punctuality.

10.149 In both scenarios, the main incumbent carrier (British Airways) would gain a significant proportion of new incumbent slots. We have assumed it would gain 25% of the new slots (i.e. half of new incumbent slots) with the existing new entrant rules, and other current main operators from the airport would gain the other new incumbent slots. With the revised new entrant rule, one of the other based network carriers, Virgin Atlantic, would be considered a new entrant, and therefore it would obtain a higher share of slots. However, British Airways would also obtain a slightly higher share of slots: this appears counter-intuitive, but happens because it would account for a higher proportion of new incumbent requests if the new entrant rule was revised, as some of the carriers that would be considered new incumbents with the existing new entrant rule would be considered new entrants with the revised rule.

10.150 The estimated impacts of the revision to the new entrant rule on the share of slots initially allocated is shown in Table 10.14. The most significant impact would be that more slots would be allocated to Virgin Atlantic (shown as the other based long haul network carrier) and British Airways; as a result slightly fewer slots would be allocated to the non-based carriers.

⁶⁷ Subject to any constraints in bilateral Air Service Agreements.

TABLE 10.14 IMPACTS ON SHARE OF SLOTS ALLOCATED OF REVISED NEW ENTRANT RULE, IF CAPACITY EXPANDED AT HEATHROW

		Current new entrant rule	Revised new entrant rule	Difference
Main based network carrier	Regional	-	-	-
	Short haul	14.3%	15.3%	1.0%
	Long haul	10.7%	11.5%	0.8%
Other based network carriers	Regional	2.4%	0.9%	-1.5%
	Short haul	3.2%	3.2%	-0.0%
	Long haul	1.3%	5.1%	3.8%
Non-based network carriers	Regional	13.9%	13.1%	-0.8%
	Short haul	37.9%	35.7%	-2.3%
	Long haul	12.6%	11.8%	-0.8%
Low cost carriers		3.6%	3.3%	-0.2%
Charter / leisure carriers		-	-	-

10.151 The revision to the new entrant rule would also slightly increase load factors and slot utilisation for the new slots, and therefore this has some quantifiable social and economic benefits. Although these are small compared to the social and economic benefits from the expansion of capacity, they are significant: in the first year the new capacity was available, passenger numbers would be around 270,000 higher if the new entrant rule was revised.

10.152 With both the existing and revised new entrant rule, secondary trading would take place, and over time would improve the initial allocation, eventually reaching a similarly efficient allocation that which would have been achieved by an auction of the new capacity (discussed below as option C3/C4). With the revised new entrant rule the volume of trades required would be lower, as the initial allocation would create more viable services, and therefore there is a small direct cost saving.

TABLE 10.15 QUANTIFIED IMPACTS: OPTION C7.1 (REVISED NEW ENTRANT RULE – EXPANSION AT HEATHROW)

Percentage impact on traffic volumes handled at each airport

	Impact on number of flights operated (%)				Impact on number of passengers (%)			
	2012	2017	2025	Average 2017-2025	2012	2017	2025	Average 2017-2025
Administrative (existing new entrant rule)	-	9.8%	10.0%	10.0%	-	8.4%	10.3%	8.8%
Administrative (revised new entrant rule)	-	9.9%	10.0%	10.0%	-	8.7%	10.3%	9.0%
Difference	-	0.1%	-	0.0%	-	0.4%	-	0.2%

Economic impacts

	Airline operating costs (€ 000s)					Other direct costs (€ 000s)				
	2012	2017	2025	Average 2017-2025	NPV 2017-2025	2012	2017	2025	Average 2017-2025	NPV 2017-2025
Administrative (existing new entrant rule)	-	-	-	-	-	-	-	100	77	446
Administrative (revised new entrant rule)	-	-	-	-	-	-	-	50	39	223
Difference	-	-	-	-	-	-	-	50	39	223
	Economic benefits (€ 000s)					Net economic benefits (€ 000s)				
	2012	2017	2025	Average 2017-2025	NPV 2017-2025	2012	2017	2025	Average 2017-2025	NPV 2017-2025
Administrative (existing new entrant rule)	-	143,975	201,148	161,537	961,198	-	143,975	201,049	161,460	960,752
Administrative (revised new entrant rule)	-	150,129	201,148	165,141	984,082	-	150,129	201,098	165,102	983,859
Difference	-	6,154	-	3,604	22,884	-	6,154	50	3,643	23,107

Social impacts

	Airport employment (FTEs)				Airline and handling agent employment (FTEs)			
	2012	2017	2025	Average 2017-2025	2012	2017	2025	Average 2017-2025
Administrative (existing new entrant rule)	-	4,369	6,104	4,902	-	14,854	26,807	18,963
Administrative (revised new entrant rule)	-	4,556	6,104	5,012	-	16,232	26,807	19,813
Difference	-	187	-	109	-	1,378	-	850

Other quantifiable impacts

	Impact on air fares (%)				Impact on CO2 emissions (000s tonnes of CO2)			
	2012	2017	2025	Average 2017-2025	2012	2017	2025	Average 2017-2025
Administrative (existing new entrant rule)	-	-7.6%	-9.3%	-8.0%	-	2,474.8	4,140.4	3,032.3
Administrative (revised new entrant rule)	-	-7.9%	-9.3%	-8.1%	-	2,705.1	4,140.4	3,170.6
Difference	-	-0.3%	-	-0.2%	-	230.4	-	138.3

Conclusion

10.153 The new entrant rule has not been successful at promoting sustainable competition. We recommend that it should be revised, with the main change being to significantly increase the number of slots that an airline can hold on a specific route whilst still being considered a new entrant. This would increase the chance that new entrant slots were allocated to airlines which could retain them and use them successfully to compete with the dominant incumbent airline.

10.154 However, it should be noted that if some of the other changes to the Regulation that we propose are made (secondary trading at all EU airports, and auctions for new capacity where created), the new entrant rule will have less impact, because slots would rarely be allocated from the pool at the most congested airports.

Option C7.2: Replace the new entrant rule with a rule giving priority to carriers other than the dominant carrier

10.155 This option would replace the existing new entrant rule with a rule giving priority in allocation of pool slots to carriers other than the dominant carrier, where this carrier exceeded a certain proportion of the slots.

10.156 This option would in effect be a cap on growth of slot holdings and hence have similar consequences to the option limiting the share of slots that an airline could acquire through secondary trading (see option C2.2 above). We recommend that this option should not be pursued for the same key reason discussed with respect to that option: a fixed limit above which priority would be given to carriers other than the dominant carrier would be a blunt instrument and might lead to perverse consequences. The ineffectiveness of the new entrant rule can be addressed more effectively by amending it.

Option C8: Amend slot utilisation criteria

10.157 We have considered two options for amendment to the slot utilisation criteria:

- Option C8.1: Increase the utilisation threshold necessary for historic rights to a series of slots above the current level of 80%
- Option C8.2: Increase the minimum number of slots in a series above the current level of 5

Option C8.1: Increase the utilisation threshold from 80%

10.158 At present, carriers must operate 80% of a series of slots in order to retain historic rights. A series of slots is defined as at least 5 slots, on the same day of the week, at the equivalent or similar time. The slots do not have to be on consecutive weeks but do have to be 'regular'. As discussed in section 5 above, the criteria in the Regulation is much more onerous than a requirement that airlines operate 80% of all slots in order to retain them:

- Any **individual** series which falls below 80% should be withdrawn (if the coordinator follows the Regulation properly), even if the airline achieves very high utilisation if measured across all of its slots. It is entirely possible for an

airline to have one series withdrawn whilst achieving 95% or higher utilisation.

- As each day of the week is a separate series, a slot on one day can be lost if less than 80% utilisation is achieved on that day. This means that, if the airline cannot acquire an equivalent slot, it can no longer offer a daily flight. In many cases this is necessary in order to meet market demand, and it is also necessary to have daily slots to ensure aircraft and crew are utilised efficiently. Therefore, potentially withdrawal of one series could prompt an airline to withdraw a service altogether.

10.159 The analysis of the sample of airports shows that at the most congested airports, such as Heathrow and Frankfurt, utilisation is very high – approximately 95% even in summer 2009, when the 80% utilisation rule was suspended. However, utilisation at other airports is lower. In addition, even a small percentage increase in capacity utilisation at a congested airport could produce significant economic benefits.

10.160 The main benefit of increasing the utilisation required is therefore that the number of flights that would be operated at capacity constrained airports would increase, albeit by relatively small numbers, and carriers that did not make full use of their slots would have to give them up so they could be used by other carriers. An exception to this is Heathrow, where there would be no quantifiable impact because (as discussed above) the number of slots allocated is higher than the movement limit to allow for some cancellations.

Cancellations of flights due to events outside carriers' control

10.161 Flights may be cancelled (or not programmed) and the slots returned after the slot return date due to either:

- a deliberate decision by the carrier not to operate a flight which it considers is not commercially viable, whilst retaining historic rights to the slot either to keep flexibility for future years, or prevent a competitor from obtaining it; or
- for reasons which are partly or wholly outside the carrier's control, such as bad weather, staffing issues, or technical problems with aircraft; as discussed below some of these are covered by Article 10(4) but many would not be.

10.162 The purpose of utilisation monitoring and slot withdrawal is to deter the former, but it may also cover the latter. Whilst Article 10(4) of the Regulation does exclude slots which are not operated due to certain specific reasons outside the carrier's control from the utilisation calculation, this does not cover several possible causes which are partly outside airlines' control, such technical problems with an aircraft and other operational issues. In considering whether the threshold should be increased, the benefit of improved slot utilisation would have to be offset against the disruption to airline scheduling and fragmentation caused by withdrawals of series of slots for reasons outside airlines' control. Although another solution might be to amend Article 10(4) so that this included a wider scope of possible causes (for example including technical problems with aircraft), there could be significant difficulties in proving whether a cancellation was genuinely for the reasons an airline claimed. This has been a serious problem with the implementation and enforcement of Regulation (EC) 261/2004.

10.163 In order to assess the extent to which withdrawal of slots for reasons outside airlines' control would be a problem at different utilisation thresholds, we have evaluated how

many slot series should be impacted by cancellations if these are outside the carriers’ control and hence are randomly distributed across all flights. For this analysis, we have assumed that 1.5% of flights are cancelled, based on statistics from the Association of European Airlines and the European Regional Airlines Association⁶⁸. For simplicity we also assume that all series are of 22 slots (equivalent to the winter season length). We have then calculated the proportion of series which would be withdrawn as a result of failure to meet the utilisation threshold, at each possible level, and the proportion of daily flights where a slot on at least one day of the week would be withdrawn. **This is based on a purely random distribution of cancellations – which is what would be expected if these were not within airlines’ control.**

10.164 The results of this analysis are shown in Table 10.16 below. This shows that, with the 80% utilisation threshold as at present, series of slots would almost never be withdrawn due to random cancellations for operational reasons outside the control of the carrier. If the threshold was increased to 90%, the number withdrawn would still be small, but not insignificant: 0.42% of series would be withdrawn for reasons outside carriers’ control, and 2.70% of daily flights would be impacted by the withdrawal of a slot on at least one day of the week. Cumulatively over a number of seasons, this would lead to significant fragmentation of the schedule, particularly at airports such as Heathrow where slots are valuable and it would not readily be possible for airlines to gain equivalent new slots to replace slots that were withdrawn.

TABLE 10.16 SERIES WITHDRAWN DUE TO RANDOM OPERATIONAL CANCELLATIONS IF THESE OCCUR ON 1.5% OF FLIGHTS⁶⁹

Utilisation threshold	Number of flights (out of 22) needing to be cancelled to lead to withdrawal of series	Proportion of series with at least this number of cancellations	Proportion of daily flights with this number of cancellations on at least one day of week
100%	1 or more	28.29%	85.39%
95%	2 or more	4.26%	23.98%
90%	3 or more	0.42%	2.70%
85%	4 or more	0.03%	0.20%
80%	5 or more	0.00%	0.01%

10.165 This analysis indicates that an 85% threshold would improve slot utilisation whilst still rarely causing the withdrawal of series of slots for reasons outside airlines’ control. In addition, as many airlines actively manage their portfolios of slots at congested airports; to try to ensure that flights for which the slots at risk of withdrawal are not cancelled, with an 85% threshold it should usually be possible for airlines to avoid withdrawal of slots for reasons outside their control.

⁶⁸ For a summary and analysis of this data see Steer Davies Gleave (2010): Evaluation of Regulation 261/2004, section 3

⁶⁹ Source for number of cancellations: AEA and ERAA

Impact on short series

- 10.166 A higher threshold might be a particular issue for short series of slots: a threshold of 90% would mean that, in the event of one cancellation in a series of 5-9 slots, the carrier would lose historic rights. This would not be sensible as it would mean that any cancellation for operational reasons would lead to carriers losing historic rights to the series and hence fragmentation of the schedule. Therefore we suggest that this option should only be implemented in conjunction with an extension to the minimum series length to ensure that it is always possible for one flight not to be operated without historic precedence being lost. At a minimum, this would need to be:
- if the threshold was increase to 85%, the minimum series length would need to be increased to at least 8 slots; and
 - if the threshold was increased to 90%, the minimum series length would need to be increased to at least 10 slots.

- 10.167 The impacts of the option of extending the series length is evaluated in more detail below.

Holiday periods

- 10.168 A further issue would relate to public holidays and dates around holiday periods, when there may not be sufficient demand for travel. If there is not sufficient demand, airlines should not be forced to operate at these times in order to retain a series of slots – this would have negative economic and environmental impacts. As discussed in section 5 above, individual slots can be returned before the slot return date and these are not counted towards the 20% (or possibly 10-15% in the future). However, some carriers do not return these slots before the slot return date and consider that they count towards the 20%, partly because some coordinators consider that the carrier would lose historic rights (see page 116 above).
- 10.169 In order to address this, particularly if the utilisation threshold is increased, the Regulation should clarify whether and when coordinators can allow ‘fill in’ of missing slots in a series. We suggest this should be permitted for up to three slots per series (as public holidays may occur on the same day of the week – for example, 25 December and 1 January); there should be a good reason for why the slot was originally returned, such as a public holiday; and the slots should have been returned to the coordinator before the slot return date.
- 10.170 To achieve this, the Regulation should be amended as follows:
- Article 8(2) should be more specific that a series of slots shall entitle the air carrier concerned (only) to equivalent slots on the corresponding days in the next equivalent scheduling period
 - Article 8(4) should be extended to state that where (i) there are gaps in a series of no more than three slots in total due to the air carrier returning slots to the coordinator; and (ii) these slots were returned by the dates specified in Article 10(3); and (iii) these correspond to the dates of public holidays or other dates on which there was a good reason for the air carrier not to plan to operate a service, the coordinator may allocate slots in the next equivalent scheduling period to fill in these gaps before allocation of the remaining slots from the pool

10.171 This is a very technical issue and an alternative means of addressing it could be through guidance to coordinators, rather than through amendment to the Regulation. However, the weakness of using guidance rather than amendment to the Regulation is that guidance is not binding and hence is not possible to enforce; despite guidance being agreed and published by EUACA there are significant differences of interpretation between coordinators.

Consistency with practice outside the EU

10.172 The 80% threshold is consistent with the IATA World Scheduling Guidelines applied at many airports outside the EU. Some stakeholders suggested that it would be unfair to European airlines to require them to achieve higher levels of utilisation at their hubs than non-EU airlines have to achieve at their hubs.

10.173 However, in our view, whilst this argument might be relevant to a discussion of a measure which could be considered to penalise airlines (such as withdrawal of grandfather rights), it is not a valid reason not to make a change to the utilisation threshold:

- European hub airports are more capacity constrained than many airports outside the EU, and practice within the EU may need to vary to reflect this;
- European airlines would benefit from the change, if it allows higher capacity utilisation and hence additional services to be operated; and
- non-EU carriers would also be impacted by the change, on their flights to/from the EU.

Estimate of impacts

10.174 The impact of this option would be to increase slot utilisation at congested airports:

- In the scenario where the threshold is increased to 85%, each series with 80-84% utilisation would have at least one additional flight operated by the airline in order to retain the series; we also assume that half of the slot series with 85-89% utilisation have an additional flight operated, as airlines will try to avoid coming close to the threshold and losing slots unintentionally.
- In the scenario where the threshold is increased to 90%, each series with 80-84% utilisation would have two additional flights operated, and each series with 85-89% utilisation would have one additional flight operated; we also assume that half of the slot series with 90-94% utilisation have an additional flight operated to avoid losing slots unintentionally.

10.175 However, as for other options, this option has no impact on the number of flights operated at airports or times of day where initial requests for slots are less than capacity: in these cases, the risk of slot withdrawal is not an incentive for an airline to operate a flight, as it can always obtain a slot for the following season in any case. In addition, as discussed above, the option has no impact on the number of flights operated at Heathrow, as the coordinator takes into account that there will be some non-operations and hence allocates more slots than the annual number of movements permitted; if utilisation was increased, the number of slots allocated would have to be reduced. There might still be an impact in terms of improved efficiency at Heathrow, as the number of flights actually operated each day would be more predictable

(potentially improving operational performance) and there could be some redistribution of slots towards carriers that would use them more efficiently, but this is not possible to quantify and in any case would be small as utilisation at Heathrow is very high.

- 10.176 In the cases where airlines risked losing slots for reasons outside their control, they might seek to contest this on the basis of Article 10(4), and if they were not successful, this might result in fragmentation of the schedule and reduce the aircraft and crew utilisation that they were able to achieve. As discussed above, this would be negligible in the case that the threshold was increased to 85%, but could be significant if the threshold was increased to 90%, and therefore we have tried to quantify this.
- 10.177 To estimate this, we have assumed that where a series was withdrawn for reasons outside the carrier's control, this would in some cases have an impact on the utilisation the airline could achieve with its crews and aircraft, if the airline was not able to obtain an equivalent slot in the next season. This impact is inherently uncertain and therefore the result should be treated as illustrative. We have assumed that (for the specific aircraft programmed to operate the slot concerned, and only on the days on which the slot was withdrawn) there would be a 10% reduction in the aircraft/crew utilisation achievable on short haul routes and 5% on long haul. As aircraft and crew costs together account for around 40% of operating costs of short haul services and around 30% on long haul services, this reduction in aircraft and crew utilisation equates to a 3.9% increase in operating costs for short haul, and 1.6% for long haul, again, only for the specific aircraft concerned programmed to use the slot that was withdrawn⁷⁰. This impact only applies to the extent that demand exceeds capacity; where it does not there is no impact because the carrier would be able to obtain equivalent slots in the following season.
- 10.178 Estimated impacts for the scenario where the threshold is increased to 85% are shown in Table 10.17 below. The most significant quantifiable impacts would be at Gatwick, followed by Orly and Düsseldorf⁷¹. The impact at Gatwick is greater than at Orly because the number of slot series with 80-84% utilisation is greater. However, at all airports, the impacts are small, because a very small proportion of slot series have 80-84% utilisation. As noted above, there is no increase in airline operating costs in the scenario that the threshold is increased to 85%, because there is still almost no case of fragmentation of the schedule to withdrawal of slots for reasons outside airlines' control. Where this change leads to more flights being operated, this leads to increased economic benefits and employment, but also increased emissions; however, these impacts are very small, reflecting the fact that the impact on the number of flights is also very small.

⁷⁰ Each aircraft is assumed to operate 3 rotations (short haul) and 0.75 rotations (long haul) daily

⁷¹ Note however that we do not have detailed slot utilisation data for Düsseldorf and therefore this assumes that the pattern of slot utilisation at Düsseldorf is equivalent to the average of the other airports

TABLE 10.17 QUANTIFIED IMPACTS: OPTION C8.1A (85% UTILISATION)**Percentage impact on traffic volumes handled at each airport**

		Impact on number of flights operated (%)				Impact on number of passengers (%)			
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025
Dusseldorf	DUS	0.1%	0.1%	0.2%	0.2%	0.1%	0.1%	0.2%	0.2%
London Gatwick	LGW	0.2%	0.3%	0.3%	0.2%	0.2%	0.3%	0.2%	0.2%
London Heathrow	LHR	-	-	-	-	-	-	-	-
Madrid	MAD	0.1%	0.0%	0.1%	0.1%	0.1%	0.0%	0.1%	0.1%
Paris Orly	ORY	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Vienna	VIE	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%

Economic impacts

		Airline operating costs (€ 000s)					Other direct costs (€ 000s)				
		2012	2017	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	-	-	-	-	-	-	-	-	-	-
London Gatwick	LGW	-	-	-	-	-	-	-	-	-	-
London Heathrow	LHR	-	-	-	-	-	-	-	-	-	-
Madrid	MAD	-	-	-	-	-	-	-	-	-	-
Paris Orly	ORY	-	-	-	-	-	-	-	-	-	-
Vienna	VIE	-	-	-	-	-	-	-	-	-	-

		Economic benefits (€ 000s)					Net economic benefits (€ 000s)				
		2012	2017	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	700	877	1,391	1,069	10,749	700	877	1,391	1,069	10,749
London Gatwick	LGW	1,277	2,243	2,445	2,112	21,490	1,277	2,243	2,445	2,112	21,490
London Heathrow	LHR	-	-	-	-	-	-	-	-	-	-
Madrid	MAD	809	410	1,604	789	8,228	809	410	1,604	789	8,228
Paris Orly	ORY	1,348	1,471	1,692	1,514	15,639	1,348	1,471	1,692	1,514	15,639
Vienna	VIE	119	331	117	185	1,968	119	331	117	185	1,968

Social impacts

		Airport employees					Airline and handling agent employees				
		2012	2017	2025	Average 2012-2025		2012	2017	2025	Average 2012-2025	
Dusseldorf	DUS	21	27	42	32		26	35	61	44	
London Gatwick	LGW	39	68	74	64		76	143	159	134	
London Heathrow	LHR	-	-	-	-		-	-	-	-	
Madrid	MAD	25	12	49	24		46	24	105	48	
Paris Orly	ORY	41	45	51	46		54	58	68	61	
Vienna	VIE	4	10	4	6		4	13	4	7	

Other quantifiable impacts

		Impact on air fares (%)				Impact on CO2 emissions (000s tonnes of CO2)			
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025
Dusseldorf	DUS	-0.1%	-0.1%	-0.2%	-0.2%	4.8	6.0	9.5	7.3
London Gatwick	LGW	-0.2%	-0.2%	-0.2%	-0.2%	13.0	23.1	23.7	21.3
London Heathrow	LHR	-	-	-	-	-	-	-	-
Madrid	MAD	-0.1%	-0.0%	-0.1%	-0.0%	8.1	4.1	16.1	7.9
Paris Orly	ORY	-0.2%	-0.2%	-0.2%	-0.2%	9.5	9.7	10.4	9.8
Vienna	VIE	-0.0%	-0.1%	-0.0%	-0.0%	0.8	2.3	0.7	1.2

10.179 Estimated impacts for the scenario where the threshold is increased to 90% are shown in Table 10.18 below. In this case, there is a more significant impact on utilisation, because there are more slot series with 80-89% utilisation, which are impacted by the change, and we also assume an increase in utilisation for slot series with 90-94% utilisation, as carriers try to ensure that they do not accidentally fall below the threshold. However, the economic benefits of more flights being operated are partly offset by the increased airline operating costs which result from reduced aircraft/crew utilisation and fragmentation of the schedule.

TABLE 10.18 QUANTIFIED IMPACTS: OPTION C8.1B (90% UTILISATION)

Percentage impact on traffic volumes handled at each airport										
		Impact on number of flights operated (%)				Impact on number of passengers (%)				
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025	
Dusseldorf	DUS	0.4%	0.4%	0.6%	0.5%	0.4%	0.4%	0.6%	0.5%	
London Gatwick	LGW	0.5%	0.7%	0.7%	0.7%	0.5%	0.7%	0.7%	0.7%	
London Heathrow	LHR	-	-	-	-	-	-	-	-	
Madrid	MAD	0.2%	0.1%	0.2%	0.1%	0.2%	0.1%	0.2%	0.1%	
Paris Orly	ORY	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	
Vienna	VIE	0.1%	0.2%	0.0%	0.1%	0.1%	0.2%	0.0%	0.1%	

Economic impacts											
		Airline operating costs (€ 000s)					Other direct costs (€ 000s)				
		2012	2017	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	- 898	- 2,755	- 5,254	- 3,757	- 37,154	-	-	-	-	-
London Gatwick	LGW	- 611	- 3,050	- 3,543	- 2,825	- 28,180	-	-	-	-	-
London Heathrow	LHR	- 1,356	- 4,284	- 4,579	- 4,044	- 41,167	-	-	-	-	-
Madrid	MAD	- 574	- 1,628	- 2,627	- 1,447	- 15,113	-	-	-	-	-
Paris Orly	ORY	- 1,535	- 5,008	- 5,714	- 4,813	- 48,775	-	-	-	-	-
Vienna	VIE	- 237	- 1,405	- 560	- 1,037	- 10,723	-	-	-	-	-

		Economic benefits (€ 000s)					Net economic benefits (€ 000s)				
		2012	2017	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	2,045	2,562	4,063	3,122	31,404	1,147	- 193	- 1,191	- 635	- 5,750
London Gatwick	LGW	3,567	6,267	6,830	5,899	60,039	2,956	3,217	3,287	3,074	31,859
London Heathrow	LHR	-	-	-	-	-	- 1,356	- 4,284	- 4,579	- 4,044	- 41,167
Madrid	MAD	2,256	1,143	4,473	2,200	22,944	1,681	- 485	1,846	752	7,831
Paris Orly	ORY	4,170	4,552	5,235	4,684	48,378	2,635	- 457	- 478	- 129	- 396
Vienna	VIE	390	1,082	382	605	6,427	154	- 323	- 178	- 433	- 4,296

Social impacts										
		Airport employees				Airline and handling agent employees				
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025	
Dusseldorf	DUS	62	78	123	95	76	103	179	129	
London Gatwick	LGW	108	190	207	179	214	399	445	376	
London Heathrow	LHR	-	-	-	-	-	-	-	-	
Madrid	MAD	68	35	136	67	129	68	293	135	
Paris Orly	ORY	127	138	159	142	167	181	212	187	
Vienna	VIE	12	33	12	18	13	42	14	22	

Other quantifiable impacts										
		Impact on air fares (%)				Impact on CO2 emissions (000s tonnes of CO2)				
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025	
Dusseldorf	DUS	-0.4%	-0.4%	-0.5%	-0.5%	13.9	17.5	27.7	21.3	
London Gatwick	LGW	-0.4%	-0.6%	-0.6%	-0.6%	36.4	64.6	66.3	59.5	
London Heathrow	LHR	-	-	-	-	-	-	-	-	
Madrid	MAD	-0.2%	-0.1%	-0.2%	-0.1%	22.6	11.5	44.8	22.2	
Paris Orly	ORY	-0.6%	-0.6%	-0.6%	-0.6%	29.2	29.9	32.2	30.4	
Vienna	VIE	-0.1%	-0.2%	-0.0%	-0.1%	2.5	7.4	2.3	4.0	

10.180 Table 10.19 summarises the results for both options for the modelled airports and the extrapolated EU-wide estimates. Increasing the threshold to 90% has more impact on utilisation but the economic benefits are offset by the increase in airline operating costs, due to the fragmentation of the schedule that results. The other airports at which these options would have relatively significant impacts are the other relatively large, congested airports such as Paris CDG, Rome Fiumicino and Zurich, and also Frankfurt and Munich, particularly before the new runways are opened at these airports. There could also be a significant benefit at Milan Linate. However, the impacts at other coordinated airports are generally less than the impacts at the modelled airports, reflecting the fact that the other coordinated airports are on average smaller and less congested.

TABLE 10.19 QUANTIFIED IMPACTS SUMMARY: OPTION C8.1 (INCREASE UTILISATION THRESHOLD)

	Threshold 85%			Threshold 90%		
	Modelled airports	Airports >20 million pax	All coordinated airports	Modelled airports	Airports >20 million pax	All coordinated airports
Passengers (%)	0.1%	0.1%	0.1%	0.3%	0.2%	0.2%
Flights (%)	0.1%	0.1%	0.0%	0.4%	0.3%	0.1%
Passengers (millions)	0.2	0.5	0.8	0.7	1.5	2.3
Airline operating costs (€ million NPV)	0.0	0.0	0.0	181.1	359.2	535.8
Direct implementation costs (€ million NPV)	0.0	0.0	0.0	0.0	0.0	0.0
Economic benefits (€ million NPV)	58.1	121.0	184.7	169.2	350.2	536.2
Net economic benefits (€ million NPV)	58.1	121.0	184.7	-11.9	-9.0	0.4
Airport employment (000 FTEs)	0.2	0.4	0.5	0.5	1.0	1.6
Airline employment (000 FTEs)	0.3	0.6	0.9	0.8	1.7	2.6
Fares (%)	-0.1%	-0.1%	0.0%	-0.3%	-0.2%	-0.1%
CO2 emissions (tonnes, 000s)	48	98	150	137	282	431

Note: Financial values presented as net present value (NPV) of costs/benefits 2012-25. Non-financial values (passengers, emissions etc) presented as annual average values 2012-25.

10.181 The qualitative assessment of other impacts is shown below.

TABLE 10.20 OTHER IMPACTS: OPTION C8.1 (INCREASE UTILISATION THRESHOLD TO 85% OR 90%)

Impact category	Impact
Noise	Slight increase, as a result of slightly more flights from major airports
Frequencies and destinations served	No impact – option impacts the number of flights cancelled not the number of flights programmed
Punctuality and reliability	Slight improvement in reliability, as airlines have a stronger incentive not to cancel flights Slight deterioration in punctuality, due to more flights being operated from busy airports and hence slightly increased congestion.

Conclusions

10.182 Increasing the utilisation threshold would have a positive impact on capacity utilisation at congested airports, but would have to be accompanied by clarification of rules on ‘fill in’ of slots handed back due to public holidays, and extension of the series length. Even if the utilisation threshold is not amended, there would be some benefit in clarifying the rule on ‘fill in’ of slot series, as this is one of the areas where there are most differences in interpretation between coordinators.

10.183 However, the economic benefits of increasing the utilisation threshold are relatively small, reflecting that slot utilisation is already very high at the most congested airports, and that at less congested airports the threat of withdrawal is not an incentive to operate, as carriers can always obtain new slots from the pool to replace any that are withdrawn.

10.184 If the threshold was increased to 90%, there is a risk that some slots would be withdrawn due to cancellations that occur for reasons outside airlines’ day-to-day control, such as technical problems with the aircraft planned to operate a particular service. This would cause fragmentation of the schedule and lead to increases in airline operating costs, which would partly offset benefits from improved utilisation. This risk is negligible if the threshold is increased to 85%.

Option C8.2: Increase the minimum length of a series of slots

- 10.185 As discussed above, a series of slots can consist of only 5 flights. Short series of slots raise a number of issues:
- Most significantly, short series of slots during peak season block capacity for the entire season (possibly, the entire year) and therefore reduce capacity utilisation at the most congested airports
 - Short series lead to fragmentation of schedules and increase the administrative burden for coordinators.
- 10.186 Coordinators and some airports have suggested that the minimum length of a series of slots should be extended. EUACA suggested a minimum of 15 for the summer season and 10 for the winter season, equivalent to approximately half the season length.
- 10.187 At some airports, which are dominated by holiday traffic and hence have very seasonal traffic, a shorter series length may be appropriate, for example because coordination is only really necessary during the peak summer. However, this could be addressed by allowing an exception to the minimum series length to be introduced as a local rule, where this is appropriate given the nature of traffic.
- 10.188 In addition, some stakeholders have pointed out that extension of the minimum series length could cause difficulties for flights which only operate at the start or end of seasons, for example charter flights to ski destinations which operate for short periods at the start of the summer season, as well as during the winter. However, these flights would still be able to operate if there were slots available that had not been allocated to carriers wanting to operate longer series of slots, as there would be at these periods (outside the main summer peak) at most airports.
- 10.189 The analysis in section 5 above shows that this is an issue, and therefore extending the minimum length of a series would have benefits in terms of more efficient utilisation of capacity. However, these benefits would be limited to a small number of airports. Extending series length would have little or no benefit at:
- airports impacted by an annual slot or movement cap (such as Paris Orly), as the annual cap would mean that increased series lengths at these airports would not allow any additional movements to be operated;
 - airports at which demand is very high, so carriers do not leave slots unused (such as Heathrow); or
 - airports, or times of day, at which demand does not exceed capacity.

Estimate of impacts

- 10.190 The main operational impact that this option has is to increase the number of flights that could be operated at certain congested airports where the operation of short series of slots in the peak (usually summer) season, by airlines with historical rights to these series, prevents operation of longer series including year-round services. We have assumed that, at these airports, where airlines currently have historical rights to short series in the high peak:
- some airlines cease to operate the service and return the slot to the pool, and it

would be allocated by the coordinator to another airline for a year-round service; and

- some airlines retain the series but extend the length to the new minimum (15 weeks).

10.191 However, the option has no impact in the following cases:

- **Airports or times of day at which demand is less than capacity, even during the peak week:** At these airports, airlines would be able to carry on operating short series by obtaining ad hoc slots. In any case, the operation of short series of slots at these airports does not have an operational impact, in terms of preventing operation of other flights.
- **Heathrow:** The option has no impact on the number of flights operated at Heathrow because of the annual movement cap at this airport. Even if this did not apply, the option would have very little impact at Heathrow because the number of flights does not vary significantly by season. There might still be some limited (unquantifiable) benefit at Heathrow by reducing schedule fragmentation.
- **Paris Orly:** This option also has no impact at Orly because of the annual slot cap. Short series of slots could not be extended because the coordinator would not be permitted to allocate more slots. As a result of this there would be a strong argument for maintaining a shorter series length (through a local rule) at Orly, to ensure that those flights that are operated are at the times which best fit demand.

10.192 This option would not generate any direct compliance or administrative costs, as implementing this option would be part of the normal activities of the coordinators.

10.193 Estimated impacts for this option are shown below. The option has the most significant impacts on the number of flights operated, and hence on the number of passengers that can be transported, at Düsseldorf and London Gatwick airports, as these airports are congested but do not have annual slot or movement caps equivalent to those at Orly or Heathrow. The impact increases over time, as the amount of time for which demand exceeds capacity increases (at present, there is some limited spare capacity in some off-peak hours at both airports). Where this change leads to more flights being operated, it generates increased economic benefits and increased employment, and results in some reduction in air fares, but also leads to increased emissions. Although the impacts at Gatwick and Düsseldorf are relatively small, they are more significant than the impacts from increasing the slot utilisation threshold. The smaller impacts at Madrid and Vienna in some years reflect lower levels of congestion; therefore short slot series in the high peak are much less likely to prevent the reduction of year-round services. For the reasons discussed above, there are no impacts at Orly or Heathrow.

10.194 It should be noted that the result for Düsseldorf is based on an average pattern of traffic across the airports for which we have data, as we have not been provided with a breakdown of slot series lengths at this airport; therefore, the result for Düsseldorf is much more uncertain than the results at the other airports.

TABLE 10.21 QUANTIFIED IMPACTS: OPTION C8.2 (EXTENDED MINIMUM SERIES LENGTH)

Percentage impact on traffic volumes handled at each airport										
		Impact on number of flights operated (%)				Impact on number of passengers (%)				
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025	
Dusseldorf	DUS	0.6%	0.6%	0.8%	0.7%	0.6%	0.6%	0.8%	0.8%	
London Gatwick	LGW	0.4%	0.7%	0.7%	0.6%	0.4%	0.6%	0.6%	0.6%	
London Heathrow	LHR	-	-	-	-	-	-	-	-	
Madrid	MAD	0.6%	0.3%	0.8%	0.5%	0.6%	0.3%	0.8%	0.5%	
Paris Orly	ORY	-	-	-	-	-	-	-	-	
Vienna	VIE	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	

Economic impacts											
		Airline operating costs (€ 000s)					Other direct costs (€ 000s)				
		2012	2017	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	-	-	-	-	-	-	-	-	-	-
London Gatwick	LGW	-	-	-	-	-	-	-	-	-	
London Heathrow	LHR	-	-	-	-	-	-	-	-	-	
Madrid	MAD	-	-	-	-	-	-	-	-	-	
Paris Orly	ORY	-	-	-	-	-	-	-	-	-	
Vienna	VIE	-	-	-	-	-	-	-	-	-	

		Economic benefits (€ 000s)					Net economic benefits (€ 000s)				
		2012	2017	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	3,024	3,787	6,006	4,615	46,424	3,024	3,787	6,006	4,615	46,424
London Gatwick	LGW	3,232	5,678	6,188	5,345	54,393	3,232	5,678	6,188	5,345	54,393
London Heathrow	LHR	-	-	-	-	-	-	-	-	-	-
Madrid	MAD	7,721	3,911	15,311	7,529	78,535	7,721	3,911	15,311	7,529	78,535
Paris Orly	ORY	-	-	-	-	-	-	-	-	-	-
Vienna	VIE	143	396	140	221	2,352	143	396	140	221	2,352

Social impacts										
		Airport employees				Airline and handling agent employees				
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025	
Dusseldorf	DUS	92	115	182	140	113	152	264	191	
London Gatwick	LGW	98	172	188	162	194	362	403	340	
London Heathrow	LHR	-	-	-	-	-	-	-	-	
Madrid	MAD	234	119	465	228	440	234	1,002	463	
Paris Orly	ORY	-	-	-	-	-	-	-	-	
Vienna	VIE	4	12	4	7	5	15	5	8	

Other quantifiable impacts										
		Impact on air fares (%)				Impact on CO2 emissions (000s tonnes of CO2)				
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025	
Dusseldorf	DUS	-0.6%	-0.6%	-0.8%	-0.7%	20.5	25.9	40.9	31.5	
London Gatwick	LGW	-0.4%	-0.6%	-0.6%	-0.5%	33.0	58.5	60.0	53.9	
London Heathrow	LHR	-	-	-	-	-	-	-	-	
Madrid	MAD	-0.6%	-0.2%	-0.7%	-0.5%	77.4	39.2	153.4	75.8	
Paris Orly	ORY	-	-	-	-	-	-	-	-	
Vienna	VIE	-0.0%	-0.1%	-0.0%	-0.0%	0.9	2.7	0.8	1.4	

10.195 Table 10.19 summarises the results for the modelled airports and EU-wide. Increasing minimum series length has a significantly greater impact on the number of flights operated, and hence a greater economic impact, than raising the utilisation threshold. The other airports at which this option could have a relatively significant impact are the other larger and more congested airports such as Paris CDG, Rome Fiumicino and Zurich, and also Frankfurt and Munich before the new runways open at these airports.

TABLE 10.22 QUANTIFIED IMPACTS SUMMARY: OPTION C8.2 (EXTEND MINIMUM SERIES LENGTH)

	Modelled airports	Airports >20 million pax	All coordinated airports
Passengers (%)	0.3%	0.4%	0.3%
Flights (%)	0.3%	0.4%	0.2%
Passengers (millions)	0.8	2.4	3.6
Airline operating costs (€ million NPV)	0.0	0.0	0.0
Direct implementation costs (€ million NPV)	0.0	0.0	0.0
Economic benefits (€ million NPV)	181.7	589.2	876.3
Net economic benefits (€ million NPV)	181.7	589.2	876.3
Airport employment (000 FTEs)	0.5	1.7	2.6
Airline employment (000 FTEs)	1.0	3.1	4.7
Fares (%)	-0.3%	-0.3%	-0.2%
CO2 emissions (tonnes, 000s)	163	515	768

Note: Financial values presented as net present value (NPV) of costs/benefits 2012-25. Non-financial values (passengers, emissions etc) presented as annual average values 2012-25.

10.196 The qualitative assessment of other impacts is shown below.

TABLE 10.23 OTHER IMPACTS: OPTION C8.2 (INCREASE SERIES LENGTH)

Impact category	Impact
Noise	Slight increase, as a result of slightly more flights from major airports
Frequencies and destinations served	Slight increase, as a result of slightly more flights from major airports outside the high peak season. But possibly a reduction on some very seasonal services, for example high peak services to holiday resorts.
Punctuality and reliability	Slight deterioration in punctuality, due to more flights being operated from busy airports and hence slightly increased congestion.

Combined impacts – Options C8.1 and C8.2

10.197 If both options C8.1 and C8.2 are implemented, the impacts are close to but slightly less than the sum of the impacts of the two separate options. The impacts are slightly less than the sum of the two because increasing the utilisation threshold has most impact on shorter slot series, but the shortest series are replaced in the event that the threshold is increased. The table below show the combined impacts of C8.1A and C8.2, and C8.1B and C8.2.

TABLE 10.24 QUANTIFIED IMPACTS SUMMARY: COMBINED OPTION C8.1A OR C8.1B AND C8.2

	Threshold 85%			Threshold 90%		
	Modelled airports	Airports >20 million pax	All coordinated airports	Modelled airports	Airports >20 million pax	All coordinated airports
Passengers (%)	0.4%	0.4%	0.3%	0.6%	0.6%	0.5%
Flights (%)	0.4%	0.4%	0.2%	0.6%	0.6%	0.3%
Passengers (millions)	1.0	2.8	4.2	1.4	3.7	5.6
Airline operating costs (€ million NPV)	0.0	0.0	0.0	181.6	360.7	537.9
Direct implementation costs (€ million NPV)	0.0	0.0	0.0	0.0	0.0	0.0
Economic benefits (€ million NPV)	226.5	684.2	1,020.7	323.2	885.5	1,328.4
Net economic benefits (€ million NPV)	226.5	684.2	1,020.7	141.6	524.8	790.4
Airport employment (000 FTEs)	0.7	2.0	3.0	1.0	2.6	3.9
Airline employment (000 FTEs)	1.2	3.6	5.4	1.7	4.6	6.9
Fares (%)	-0.4%	-0.4%	-0.2%	-0.6%	-0.5%	-0.2%
CO2 emissions (tonnes, 000s)	198	591	883	275	751	1,127

Note: Financial values presented as net present value (NPV) of costs/benefits 2012-25. Non-financial values (passengers, emissions etc) presented as annual average values 2012-25.

Conclusions

- 10.198 This analysis indicates that increasing the minimum series length would allow additional flights to be operated at some of the most congested airports, and therefore would lead to more efficient utilisation of restricted capacity. Therefore this should be implemented. However, it should be noted that there would be negative impacts for certain types of traffic – particularly, charter/leisure airlines which may have historic slots in peak summer at congested airports.
- 10.199 If this is implemented, the Regulation should allow a shorter series length to be used at some airports, and this could be decided as a local rule. It would be appropriate to retain a shorter series length at airports where demand is very seasonal (for example some airports dominated by holiday traffic) and also at airports at which demand did not exceed capacity.

11. IMPACT ASSESSMENT: INTRODUCTION OF MARKET MECHANISMS

Introduction

11.1 This section estimates the impact of options relating to introduction of market mechanisms for slot allocation.

Option C1: Definition of ownership of slots

11.2 Article 2(a) defines a slot as *'the permission given by a coordinator in accordance with this Regulation to use the full range of airport infrastructure necessary to operate an air service at a coordinated airport on a specific date and time for the purpose of landing or take-off as allocated by a coordinator in accordance with this Regulation'*. Ownership of the slots is not defined.

11.3 However, the Regulation gives grandfather rights to airlines in perpetuity, unless the carrier fails to use the slot, or the law is changed. In practice, there is little difference between this situation and a situation where the airlines own the slots: the airlines obtain the full economic value of the slots, including (where secondary trading is permitted) revenue from sale or lease. The lack of any definition does not appear to have impacted the operation of the secondary market at Heathrow and Gatwick.

11.4 There was agreement amongst all stakeholders interviewed for this study, and most that responded to the public consultation, that the lack of any definition of ownership of slots had not created any problems with the operation of the current Regulation and most believed that there was no need for a definition.

11.5 Some airports argued that they should be defined as owning the slots and given a share of the revenue from sale of slots, as these relate to airport infrastructure. However, airports at which slots have value are by definition monopolies; to address their potential market power, they are usually subject to economic regulation of their charges and revenue. Therefore, in our view, they should not be able to obtain revenue from secondary trades, and in any case if they did receive revenue from this, this should be offset by reductions in other charges. In addition, if the airport received revenue from trades, this would reduce the incentive for airlines to sell slots, and therefore reduce the liquidity of the slot market. Although it could be argued that airports should be able to keep the revenue from slot sales in order to fund investment, if capital investment is required at a congested airport with monopoly power, this should be taken into account by the economic regulator or other authority in determining the appropriate level of charges.

11.6 We have considered whether a definition of the ownership of slots would have any impact on airlines who may wish to list slots as assets on their balance sheets. However, many airlines including British Airways, easyJet and Lufthansa already list slots on their balance sheets as intangible assets. Other airlines, including Air France-KLM, also list intangible assets on their balance sheets but do not specify if slots are amongst these. These carriers only include the value of slots acquired as part of acquisitions of other carriers or directly purchased, not their other slot holdings; we understand that BMI previously accounted for the values of all slots on its balance sheet, but since its incorporation into the Lufthansa group it does not publish separate

accounts.

- 11.7 Since slots have been the main economic value in some airline acquisitions, such as the Lufthansa acquisition of BMI and the easyJet acquisition of GB Airways, these values need to be listed on airlines' balance sheets in accordance with accounting practice, in the same way as any other intangible asset – such as 'goodwill' (where a company is valued at more than the value of its individual assets). This is an accounting requirement, not a legal requirement. Acquired slots which had a value would always have to be listed as intangible assets on airlines' balance sheets whilst the airlines retained the economic value from the assets. Therefore the only option being considered for this study which would impact airlines' ability to list slots on their balance sheet is option C5 (withdrawal of grandfather rights), as this would significantly reduce the values of slots currently held by airlines. Similarly, although not amongst the options which have been considered for this study, an option which allowed airports or Member States to significantly increase airport charges at capacity constrained airports so that these reflected the full economic value of the slots would also reduce the value of slots, and therefore impact what value if any could be registered on airlines balance sheets.
- 11.8 We have also considered whether slots could be used as securities for loans from financial institutions if the definition of ownership was changed. At present, they could not be, because they can only be held by airlines and therefore could not be transferred to the financial institution. For slots to be made available as securities it would be necessary to allow them to be held by parties other than airlines, which stakeholders indicated strong opposition to. It is not impossible that a financial institution might decide to take into account the fact that the carrier held slots which could be sold to other airlines when considering whether to provide finance, but defining the ownership of slots would not change this.
- 11.9 For the reasons discussed above we conclude that there is no benefit in introducing a definition of the ownership of slots.

Option C2: Secondary trading

- 11.10 The Commission announced in its 2008 Communication that, since the current Regulation did not prohibit secondary trading, it would not pursue infringement proceedings against States in which secondary trading took place provided this took place in a transparent manner. However, as discussed in section 5 above, this has had relatively little impact on the market: secondary trading has continued as before at Heathrow and Gatwick, and there is limited evidence of secondary trading at other airports – although this may be partly due to lack of transparency. Whilst there has been some progress in ensuring secondary trading is transparent at Heathrow and Gatwick with the launch of the slottrade.aero website, the position is still not transparent at other airports. For example, at the German airports, the coordinator has identified that artificial exchanges occur, which implies that there may be payments, but there are no details available and some of the airlines involved deny that there have been payments.
- 11.11 Some States and coordinators do not permit secondary trading and will only permit it to take place if the Regulation specifically states that it is permitted. At one of the

most capacity-constrained airports in Europe, Paris Orly, secondary trading is impossible because the mechanism by which it takes place at other airports ('artificial' or 'fake' exchanges) cannot occur, as airlines cannot obtain slots at any time due to the slot cap. Secondary trading is prohibited in Spain by national legislation, although the volume of trades would probably be very low in any case, as demand does not significantly exceed capacity at any major Spanish airport.

11.12 As the Commission has decided not to pursue infringement proceedings against States in which secondary trading occurs, we have not considered an option in which secondary trading does not take place at any EU airport. The options we have considered are:

- Option C2.1: Introduce secondary trading at all EU airports
- Option C2.2: Introduce trading but with restrictions on the proportion of slots which may be held by an incumbent
- Option C2.3: Introduce a prohibition on the placing of anti-competitive restrictive covenants
- Option C2.4: Increased post-trade transparency
- Option C2.5: Increased pre-trade transparency
- Option C2.6 Centralised auctions of slots given up by carriers, with the revenue going to the carrier which released the slot but without it being able to determine which carrier obtained the slot (blind auctions).

Option C2.1: Introduce secondary trading at all EU airports

11.13 This option would amend the current Regulation to allow secondary trading to take place at all coordinated airports.

11.14 At airports which already have significant volumes of secondary trading (Heathrow and Gatwick), explicit authorisation would have some benefits:

- Some carriers might be more willing to participate in buying and leasing of slots, as the system would be more transparent and there would be greater legal certainty about the transaction. As a result, we might expect an increase in the volume of trades, and therefore that trading would come closer to achieving an optimal distribution of slots. However, this impact is likely to be relatively small, as the current 'grey' nature of the market does not appear to have deterred trading.
- The administrative cost to carriers of arranging slot trades could be reduced. At present, carriers can incur significant legal costs, as the transaction has to be relatively complex. US carriers involved in relatively few trades informed us that trades incurred "hundreds of hours of legal costs", although others who undertake a higher volume of trades often have standard contracts and therefore the cost of undertaking each trade is much reduced.
- It might be possible to improve the transparency of trades (discussed below)

11.15 The main benefit of explicit authorisation of secondary trading would be at other airports. As discussed in section 5 above, there is evidence that slot utilisation is less efficient at congested airports at which secondary trading does not take place. There is also evidence that secondary trading at Heathrow has directly led to increased aircraft sizes, and hence more efficient capacity utilisation.

- 11.16 However, many stakeholders emphasised that they expected the impact of secondary trading to be lower at airports other than Heathrow. This is consistent with the experience from Gatwick, where most slot acquisitions have been from the pool not on the secondary market, and secondary trading has not had a clear impact on capacity utilisation, despite demand for slots also exceeding supply through most of the day. The reasons for lower volumes of trades being expected were:
- Most airports are less congested than Heathrow - although some are equivalently restricted, such as Orly, and congestion may get more severe at a wider range of airports in the future. However, it should be noted that the most congested EU hub airport other than Heathrow (Frankfurt) is likely to be less congested in the period covered by the impact assessment, due to substantial planned capacity increases.
 - Most other hub airports have one dominant based carrier and alliance, whereas at Heathrow and Gatwick slot holdings are less concentrated. This means that there is more scope for trading at Heathrow and Gatwick than at other airports.
 - The high values of peak (pre 0900) slots at Heathrow arises partly because this is the peak time for long haul services for many competing airlines. At some other airports such as Amsterdam, the hub carrier and its alliance partners operate a 'wave' system of arrivals and departures, to maximise connection opportunities. The banks of arrivals and departures represents peak demand but are not necessarily peak periods for other carriers: indeed, they may actively seek to avoid operations in this period, to avoid providing better connections into the hub carriers' other services. More information on the 'wave' system at Amsterdam is provided in section 3.

Estimate of impacts

- 11.17 The main quantifiable impact secondary trading would have is to change the types of flights operated, and the types of aircraft used. The extent to which secondary trading had these impacts would depend on the volume of trades, as well as the characteristics of demand for slots at each airport. We have quantified the operational impacts of secondary trading based on estimates at each airport of:
- the number of trades that would take place (the impact on slot mobility);
 - the impact of each trade on the types of airline/flight that would be operated; and
 - the impact of each trade on aircraft size.
- 11.18 As set out in section 5 above, there is clear evidence for the impact secondary trading has had on each of these factors at Heathrow and Gatwick. However, it is uncertain what impact secondary trading would have at other airports, and therefore this needs to be estimated based on the experience from Heathrow and Gatwick, taking into account the specific characteristics of the airports concerned (in particular the nature of unmet demand for slots).
- 11.19 Secondary trading at Heathrow and Gatwick does not appear to have been significantly impacted by any lack of clarity with respect to its legal status. However, in the interviews undertaken for this study, airlines indicated that a small increase in secondary trading might be expected if it was explicitly permitted, as this would increase legal certainty and therefore the willingness of some airlines to participate in the market. Therefore, we have assumed that, at Heathrow and Gatwick, the impact of

explicit permission for secondary trading would be to increase the number of trades (and hence the impacts obtained from it) by 10%. Other impacts of secondary trading at Heathrow and Gatwick are estimated as follows:

- At Heathrow, we assume that secondary trading would continue to have similar impacts to that it has had before on aircraft sizes and types of airline (i.e. there would be a change in type of flights towards long haul flights operated by non-EU carriers). However, the impact of secondary trading is likely to reduce over time, as there are already relatively few short haul flights left particularly during the high peak period (early morning arrivals), and therefore relatively few peak slots which can be transferred from short haul to long haul. Therefore the marginal benefits from each trade will reduce over time.
- At Gatwick, the impact secondary trading has had in recent years is partly distorted by the fact that the US carriers have given up slots, and some carriers with quite small aircraft have acquired slots (possibly as a result of babysitting). These effects are unlikely to be repeated. Therefore, in estimating future impacts of secondary trading at Gatwick, we have assumed that secondary trading does lead to increased aircraft size but at a lower rate at Heathrow. We would expect low cost carriers (particularly easyJet) to continue to be the main buyers of Gatwick slots, but some other low cost carriers which operate smaller aircraft to be sellers of slots, particularly in the later years of the period covered by the impact assessment.

11.20 The number of trades and the impact on slot mobility (and hence the overall impact of secondary trading) would vary between the airports:

- Trading would appear likely to have the strongest impact at Paris Orly, where demand significantly exceeds capacity, slot mobility is currently very low, and there are no plans to expand capacity. Although there is currently no market in slots, slots appear to have significant value, indicated by the very low proportion of slots returned to the pool, and the high value attributed to slots acquired through airline takeovers. Therefore we would expect secondary trading to result in a significant increase in slot mobility and account for the majority of slot transfers (as at Heathrow). In particular, the fact that there is almost no constraint other than the annual slot cap increases the potential for secondary trading, because any airline that was able to find a seller of a slot would be able to use the slot as it wanted without any other restrictions (at Heathrow and Gatwick, the seller must have an equivalent slot). This situation is unique to Orly and, in our view, means that trading could have very significant impacts on slot mobility at this airport, perhaps equivalent to or even greater than at Heathrow.
- Trading could also have a significant impact on slot mobility at Düsseldorf. However, the impact would be much less than at Heathrow or Orly. As shown in section 5 above, despite the fact that demand exceeds capacity throughout the day, slots can already be obtained through the pool at Düsseldorf; slot mobility is still quite high even without secondary trading. In addition, the fact that there are other airports in the region with spare capacity (Cologne-Bonn, Weeze, Dortmund), and that there is a major hub easily accessible by rail (Frankfurt) which will soon have substantial spare capacity, also act as a constraint on slot values and demand. For modelling purposes, we have assumed that the impacts at Düsseldorf might be closer to those seen at Gatwick.
- As trading would only have an impact where demand exceeded capacity, it would only have an impact at Madrid or Vienna during peak periods, and as it has been

possible to obtain pool slots even during peak periods at these airports, the impact would be much less than at Heathrow or Gatwick now. Airlines' willingness to pay for slots would also be significantly limited by the fact that both airports expect to expand capacity during the period covered by the impact assessment.

11.21 The impacts on the types of airlines using slots will also differ between the airports:

- At Orly, although the impact on slot mobility might be comparable to Heathrow, unlike at Heathrow there probably would not be significant acquisitions of slots by non-EU airlines. Long haul services are more dependent on connecting traffic and therefore non-EU airlines will tend to prefer to operate to CDG. In addition, the based network carrier (Air France) would probably not be willing to purchase slots, as it mostly operates short haul services from Orly, and short haul network carrier services are rarely very profitable. Therefore, we would expect low cost airlines, particularly easyJet, to be the main buyers of slots, as at Gatwick. The main airlines giving up slots would be the operators of the smaller aircraft, potentially including the based network carrier, as at Gatwick.
- At Düsseldorf, there is quite a wide mix of different types of flights, many of which use quite small aircraft. We would expect secondary trading to mean that any increased demand for long haul flights is accommodated first, as long haul operators would generally have more resources to purchase slots, and long haul services are more profitable; but otherwise the main impact to be that airlines with smaller aircraft will sell slots to those with larger aircraft.
- At Madrid and Vienna, secondary trading would have relatively limited impacts on types of airline serving the airport, as demand for slots only exceeds supply in certain peak periods. Where demand does exceed supply, secondary trading would mean that slots would be more likely to be taken for long haul flights, and the airlines with smaller aircraft would be most likely to give up slots.

11.22 The assumed impacts on aircraft size are as follows:

- At Orly, there is significant potential for secondary trading to have an impact given some small aircraft sizes at the moment, and currently low slot mobility. However, the impact on aircraft sizes would be less than at Heathrow because, as discussed above, long haul operators (who would generally have the largest aircraft) would probably not be significant buyers of Orly slots.
- At Düsseldorf, there would also be a significant impact particularly in the later years when demand more significantly exceeds capacity. The potential for increases in aircraft size is quite high at Düsseldorf as flights with small aircraft currently account for a high proportion of movements (see section 5 above).
- At Madrid and Vienna, the overall impact on aircraft size is limited, although operators of smaller aircraft might shift into off-peak periods in order to sell peak slots to long haul or other operators.

11.23 These assumptions are summarised in Table 11.1.

TABLE 11.1 ASSUMPTIONS FOR IMPACT OF OPTION C2.1 (SECONDARY TRADING)

Airport	Impact on slot mobility	Impact on aircraft size	Impact on type of airline/flight
Düsseldorf	Medium	Medium	Move towards longer distance and larger aircraft types
London Gatwick	Trading already in baseline. 10% increase in number of trades.	Medium	Based on actual experience (low cost airlines main buyers)
London Heathrow	Trading already in baseline. 10% increase in number of trades.	High (but reducing)	Based on actual experience (non-EU airlines main buyers)
Madrid	Low	Low	Where demand exceeds capacity, towards longer distance and larger aircraft types
Paris Orly	High	Medium	Low cost airlines main buyers
Vienna	Low	Low	Where demand exceeds capacity, towards longer distance and larger aircraft types

- 11.24 In addition, carriers would face some costs as a result of secondary trading – primarily legal costs. Carriers would only incur these costs where the trade was of net benefit to them taking into account these costs, and therefore by definition these costs would be less than the net benefits. We estimate the current legal costs per transaction would be reduced by approximately 10% as a result of explicit authorisation of secondary trading.
- 11.25 There would be an impact on **fares**. If secondary trading increases capacity offered from an airport, and hence the number of people that can travel, overall fares would be reduced. However, the effect is likely to vary significantly between routes: if short haul flights are withdrawn because the slots are utilised for long haul instead, there could be significant increases in fares on some short haul routes, even though overall fares at the airport would fall. The price paid for a slot on the secondary market should have no impact on fares: once a slot has been purchased, the airline should set capacity and fares at the level that maximises its future profits, in the same way as it would usually do.
- 11.26 If secondary trading leads to more people being able to travel and for those people to travel further, it would generate **economic benefits** and increased **employment** at the airport and in airlines. However, secondary trading would lead to increased **emissions**, as it would generally result in more slots being used for larger aircraft flying longer distances.
- 11.27 The estimated results of secondary trading at each airport are shown in Table 11.2 below. The impacts are largest at Düsseldorf and, particularly, at Orly. Impacts are much lower at Heathrow and Gatwick because it is assumed that there would already be secondary trading at these airports in the baseline scenario – and therefore the only impacts are from the slightly increased volume of trades due to the improved transparency and legal certainty. However, any increase in secondary trading at Heathrow generates significant economic benefits, as it tends to result in greater increases in aircraft size and flight length than elsewhere. Impacts increase at Düsseldorf in the later years of the period covered by the impact assessment, as the remaining spare capacity is used up and the gap between demand and capacity

increases. Impacts at Madrid and Vienna are much lower, because demand only exceeds capacity during peak hours at these airports, and only during certain years of the period covered by the impact assessment.

TABLE 11.2 QUANTIFIED IMPACTS: OPTION C2.1 (SECONDARY TRADING)

Percentage impact on traffic volumes handled at each airport										
		Impact on number of flights operated (%)				Impact on number of passengers (%)				
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025	
Dusseldorf	DUS	0.0%	-0.0%	-0.0%	-0.0%	0.8%	3.6%	8.6%	4.7%	
London Gatwick	LGW	-0.0%	0.0%	-0.0%	-0.0%	0.1%	0.1%	0.6%	0.3%	
London Heathrow	LHR	-0.0%	0.0%	-0.0%	0.0%	0.2%	0.4%	0.9%	0.5%	
Madrid	MAD	0.0%	0.0%	-0.0%	0.0%	0.2%	0.6%	0.7%	0.6%	
Paris Orly	ORY	0.0%	0.0%	0.0%	0.0%	1.1%	6.0%	13.3%	7.6%	
Vienna	VIE	0.0%	0.0%	0.0%	0.0%	0.2%	0.4%	0.4%	0.4%	

Economic impacts											
		Airline operating costs (€ 000s)				Other direct costs (€ 000s)					
		2012	2017	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	-	-	-	-	-	162	185	254	216	2,201
London Gatwick	LGW	-	-	-	-	-	2	3	3	2	25
London Heathrow	LHR	-	-	-	-	-	4	4	4	4	42
Madrid	MAD	-	-	-	-	-	85	84	96	84	881
Paris Orly	ORY	-	-	-	-	-	208	208	208	208	2,176
Vienna	VIE	-	-	-	-	-	51	60	40	49	528

		Economic benefits (€ 000s)				Net economic benefits (€ 000s)					
		2012	2017	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	3,869	21,513	61,537	28,872	273,758	3,707	21,328	61,283	28,656	271,558
London Gatwick	LGW	571	993	5,664	2,608	24,663	573	996	5,666	2,611	24,688
London Heathrow	LHR	2,475	7,064	18,073	9,161	87,453	2,479	7,068	18,077	9,165	87,495
Madrid	MAD	3,016	9,022	12,454	9,216	92,095	2,931	8,938	12,358	9,131	91,215
Paris Orly	ORY	6,705	39,369	100,077	51,370	487,386	6,497	39,160	99,868	51,162	485,210
Vienna	VIE	864	2,494	3,466	2,628	25,952	812	2,434	3,425	2,579	25,424

Social impacts										
		Airport employment (FTEs)				Airline and handling agent employment (FTEs)				
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	117	653	1,868	876	199	1,128	3,746	1,600	
London Gatwick	LGW	17	30	172	79	30	23	354	149	
London Heathrow	LHR	75	214	548	278	321	1,126	3,054	1,457	
Madrid	MAD	92	274	378	280	916	2,823	3,813	2,827	
Paris Orly	ORY	203	1,195	3,037	1,559	497	2,489	5,860	3,136	
Vienna	VIE	26	76	105	80	28	107	150	116	

Other quantifiable impacts										
		Impact on air fares (%)				Impact on CO2 emissions (000s tonnes of CO2)				
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	-0.7%	-3.3%	-7.8%	-4.0%	30	159	490	218	
London Gatwick	LGW	-0.1%	-0.1%	-0.5%	-0.3%	5	3	50	22	
London Heathrow	LHR	-0.1%	-0.4%	-0.8%	-0.5%	55	189	472	235	
Madrid	MAD	-0.2%	-0.6%	-0.6%	-0.5%	159	466	576	454	
Paris Orly	ORY	-1.0%	-5.5%	-12.1%	-6.7%	79	362	766	435	
Vienna	VIE	-0.2%	-0.4%	-0.4%	-0.4%	4	11	12	11	

11.28 The changes in the market share of each airline/flight type are shown in Table 11.3 below. At Düsseldorf and (particularly) at Orly secondary trading results in:

- an increase in the share of low cost carriers – and at Düsseldorf other based network carriers⁷²; and
- a reduction in the share of the based network carriers (Lufthansa and Air France), as these generally operate smaller aircraft.

11.29 The small increase in secondary trading resulting from this option has a negligible impact on shares, by airline type, at Heathrow and Gatwick; this is because this option

⁷² We have classified Air Berlin, the second largest holder of slots at Düsseldorf, as a based network carrier as it is a member of an airline alliance and accommodates transfer passengers; however it has many of the other characteristics of a low cost carrier

only represents a small increase in the volume of trades at these airports, and there is limited scope for further change to the market shares of different airline types. Particularly later in the period, most incremental trading would be between airlines of the same category (for example between non-EU airlines at Heathrow, and between low cost airlines at Gatwick). In order to show what effect secondary trading has on market share at Heathrow and Gatwick this table shows the **full** market share impact of secondary trading (i.e. relative to a scenario in which there is no trading at all).

TABLE 11.3 IMPACT ON SHARE OF SLOTS: OPTION C2.1 (SECONDARY TRADING)**Impact on Carrier Market Share**

		Dusseldorf				London Gatwick			
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025
Main based network carrier	Regional	-0.1%	-0.5%	-1.2%	-0.6%	-	-	-	-
	Short haul	-0.3%	-1.3%	-2.9%	-1.4%	-0.6%	-2.9%	-8.2%	-4.0%
	Long haul	-	-	-	-	-	-	-	-
Other based network carriers	Regional	-0.2%	-1.1%	-2.1%	-1.3%	-0.5%	-1.0%	-1.5%	-1.2%
	Short haul	0.7%	2.2%	3.5%	2.3%	-0.1%	-0.0%	-0.1%	-0.1%
	Long haul	-	-	-	-	-0.0%	-0.0%	0.4%	0.1%
Non-based network carriers	Regional	-0.4%	-2.0%	-4.3%	-2.2%	-0.2%	-0.4%	-0.6%	-0.4%
	Short haul	-0.1%	-0.1%	-0.7%	-0.2%	0.3%	0.5%	-0.1%	0.4%
	Long haul	0.0%	0.0%	0.2%	0.0%	0.5%	0.7%	1.8%	1.0%
Low cost carriers		0.4%	2.2%	7.0%	3.1%	0.4%	2.7%	7.7%	3.8%
Charter / leisure carriers		0.1%	0.5%	0.5%	0.4%	0.1%	0.3%	0.5%	0.4%
		London Heathrow				Madrid			
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025
Main based network carrier	Regional	-	-	-	-	-	-	-	-
	Short haul	0.2%	0.9%	1.7%	1.0%	0.1%	0.4%	0.4%	0.3%
	Long haul	0.0%	0.2%	0.5%	0.2%	0.1%	0.3%	0.2%	0.2%
Other based network carriers	Regional	-0.8%	-0.9%	-1.0%	-0.9%	-0.0%	-0.0%	-0.0%	-0.0%
	Short haul	-0.2%	-1.0%	-1.4%	-1.0%	-0.1%	-0.8%	-1.4%	-0.9%
	Long haul	0.0%	0.6%	2.0%	0.9%	0.1%	0.2%	0.3%	0.2%
Non-based network carriers	Regional	-0.9%	-1.9%	-2.0%	-1.8%	-0.1%	-0.3%	-0.2%	-0.2%
	Short haul	0.5%	-1.2%	-5.8%	-2.2%	-0.1%	-0.3%	-0.4%	-0.3%
	Long haul	1.1%	3.3%	6.0%	3.7%	0.1%	0.3%	0.3%	0.3%
Low cost carriers		-0.0%	-0.0%	-0.0%	-0.0%	0.0%	0.2%	0.7%	0.4%
Charter / leisure carriers		-	-	-	-	-0.0%	-0.0%	-0.0%	-0.0%
		Paris Orly				Vienna			
		2012	2017	2025	Average 2012-2025	2012	2017	2025	Average 2012-2025
Main based network carrier	Regional	-0.6%	-2.8%	-5.7%	-3.3%	-	-	-	-
	Short haul	-0.5%	-3.1%	-7.5%	-4.0%	-0.0%	-0.1%	-0.1%	-0.1%
	Long haul	-	-	-	-	-0.0%	0.0%	-0.0%	0.0%
Other based network carriers	Regional	-0.2%	-1.0%	-1.7%	-1.1%	-0.1%	-0.1%	-0.1%	-0.1%
	Short haul	-0.1%	-0.1%	-0.3%	-0.1%	-	-	-	-
	Long haul	-	-	-	-	-	-	-	-
Non-based network carriers	Regional	-0.0%	-0.1%	-0.5%	-0.2%	-0.1%	-0.7%	-0.8%	-0.7%
	Short haul	0.3%	0.4%	-0.6%	0.1%	0.1%	0.2%	0.2%	0.2%
	Long haul	0.1%	0.3%	0.5%	0.3%	0.0%	0.0%	0.1%	0.0%
Low cost carriers		1.0%	6.1%	15.1%	7.8%	0.1%	0.6%	0.8%	0.6%
Charter / leisure carriers		0.0%	0.4%	0.7%	0.4%	0.0%	0.0%	0.0%	0.0%

11.30 The analysis shows that secondary trading could have a particularly significant impact on overall market share at Orly. Low cost carriers currently have around 13% of slots at Orly, which we estimate might increase to 19% by 2025 without secondary trading, but 34% if secondary trading is introduced.

11.31 However, it should be emphasised that these results depend on the assumption that Air France is willing to sell slots at Orly; similarly, it is assumed that Lufthansa is willing to sell slots at Dusseldorf. This appears to be in their economic interests, as short haul network carrier services are usually not very profitable; neither airport is their main hub and therefore the slots are not necessary to 'feed' their long haul networks; and their aircraft sizes are quite low, indicating other airlines are likely to place a higher value on the slots. In addition, the fact that in recent years Air France has not

expanded at Orly might imply that it would be willing to give up slots: since 2003, less than 2% of the 106 new daily slot pairs at Orly have been allocated to Air France Group carriers. This would also be consistent with the experience from Gatwick, where British Airways has sold or leased out large numbers of slots. However, these airlines might nonetheless decide not to sell slots if it enabled competitors to strengthen their position.

- 11.32 The EU-wide impacts are summarised in Table 2.1. The benefits of secondary trading being extended to all EU airports are far greater than the benefits of any of the other options evaluated for the study. Across all coordinated airports this option allows around 14 million passengers per year to travel and generates annual economic benefits of over €300 million. However, the impacts at other coordinated airports are proportionately less than the impacts at the modelled airports, as the other coordinated airports are less congested and on average are smaller. Other airports at which secondary trading should have a relatively significant impact are Paris CDG, Rome Fiumicino and Zurich. Secondary trading could also have a significant impact at Milan Linate although impacts at this airport would be strongly constrained by the Bersani Decree, which would significantly limit the scope for trading.

TABLE 11.4 QUANTIFIED IMPACTS SUMMARY: OPTION C2.1 (SECONDARY TRADING AT ALL EU AIRPORTS)

	Modelled airports	Airports >20 million pax	All coordinated airports
Passengers (%)	2.4%	1.5%	1.2%
Flights (%)	0.0%	0.0%	0.0%
Passengers (millions)	4.5	10.0	14.4
Airline operating costs (€ million NPV)	0.0	0.0	0.0
Direct implementation costs (€ million NPV)	5.7	16.1	24.7
Economic benefits (€ million NPV)	991.3	2,162.3	3,139.7
Net economic benefits (€ million NPV)	985.6	2,146.2	3,115.1
Airport employment (000 FTEs)	3.2	6.8	9.9
Airline employment (000 FTEs)	9.3	23.8	34.3
Fares (%)	-2.1%	-1.4%	-0.6%
CO2 emissions (tonnes, 000s)	1,375	3,574	5,140

Note: Financial values presented as net present value (NPV) of costs/benefits 2012-25. Non-financial values (passengers, emissions etc) presented as annual average values 2012-25.

- 11.33 The qualitative assessment of other impacts is shown below. Secondary trading could have a negative impact on regional accessibility, because, as at Heathrow, airlines operating regional flights may decide to sell these slots to airlines wishing to operate more profitable long haul services.

TABLE 11.5 OTHER IMPACTS: OPTION C2.1 (SECONDARY TRADING)

Impact category	Impact
Noise	Slight increase in noise around major airports, as a result of use of larger aircraft
Frequencies and destinations served	No overall impact on number of flights. There may be a reduction in short distance and regional destinations served and frequencies, as regional airlines sell slots to operators of more profitable longer-distance services. There may be an increase in frequencies on long haul routes.
Punctuality and reliability	Little or no impact. There could be a slight improvement in reliability as

	airlines that purchase slots may be less likely to cancel flights.
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- 11.34 We have also been asked to consider whether the wider introduction of secondary trading would present problems for the EU's policy on mergers. This has included requirements that airlines divest slots as a condition for mergers, acquisitions or joint ventures: for example, recently British Airways, American Airlines and Iberia were required to divest slots at Heathrow as one of the conditions for their joint venture⁷³. However, this case shows that secondary trading is not an obstacle to imposition of conditions such as this: the parties to the joint venture were required to lease slots to competitors to operate on the specified routes, and the applicants for slots were permitted to offer compensation to the parties for these slots.⁷⁴

Conclusions

- 11.35 For the reasons discussed above we recommend that the Regulation should be amended to specify that slots may be transferred between air carriers with or without monetary or other compensation. Although many airlines and some other stakeholders interviewed for this study argued that a change in the Regulation was not necessary to achieve this, it clearly is necessary to allow secondary trading at Orly, and appears to be necessary for any significant volume of trades to occur at other airports.
- 11.36 The rest of this section discusses various options relating to secondary trading. It assumes that secondary trading is explicitly permitted and therefore refers to transfers of slots, rather than exchanges of slots. Airlines would always be able to continue to make one-for-one exchanges of slots but transfers would also be permitted.

Option C2.2: Restrict proportion of slots which an incumbent could hold

- 11.37 A key concern about secondary trading is that it may lead to an increase in the proportion of slots held by incumbent carriers and their alliance partners, as these might have the greatest incentive to purchase slots. This risk was recognised in a report by the air transport working group of European Competition Authorities⁷⁵ and a report by the UK CAA and Office of Fair Trading (OFT) on competition impacts of secondary trading⁷⁶.
- 11.38 As outlined in section 5 above, the evidence from slot trading at Heathrow and Gatwick is mixed. Whilst the share of British Airways and its partner carriers has increased at Heathrow, it is still low in comparison to the share of Air France at CDG, KLM at Amsterdam and Lufthansa at Frankfurt. Data provided by ACL and airlines shows that British Airways has obtained slots through secondary trading but in recent years it has accounted for a relatively low proportion of acquisitions and a number of other carriers – including carriers such as Virgin Atlantic, Continental, Delta and Etihad – have used slots acquired through trading to compete with British Airways.

⁷³ Case COMP/39.596

⁷⁴ Commission Decision of 14 July 2010,

⁷⁵ European Competition Authorities (2005): Progress report of the air transport working group on slot trading

⁷⁶ UK CAA and OFT (2005): Competition issues associated with the trading of airport slots

However, because other hub airports have more concentrated slot holdings than Heathrow, the risk of a hub carrier using secondary trading to acquire a dominant position, and the potential negative impact on competition, would be greater.

11.39 It would be very difficult to define a fixed proportion of slots above which an incumbent carrier was dominant and should not be permitted to acquire more slots through secondary trading. The level required to be dominant would depend on a number of different factors, including:

- The extent to which there is competition with other airports: For example, Ryanair has 56% of slots at Stansted⁷⁷, but a low share of slots across the five London airports. It is clearly not dominant in the London market.
- The nature and timing of the slots would be relevant to any determination of dominance as well as the proportion held: For example, if a carrier held a high proportion of slots at times appropriate for long haul services, it might be dominant in this market even if did not hold a proportion of slots higher than the threshold in aggregate.
- The extent to which the other carriers provide effective competition: Depending on the nature of the services other carriers provide from the airport, they may be more or less effective competitors. Whilst slot holdings are one factor that may determine this, this is not the only factor.
- The nature of the main carrier's links with other carriers: It would be difficult to define which carriers the cap should apply to - for example, just the dominant carrier; or also other airlines within the same owning group, alliance partners, or airlines with whom it had weaker commercial arrangements. The definition would have to be set quite broadly to avoid the risk that the cap could be circumvented, but there would then be a risk of legal challenge to any decisions that coordinators made in applying the cap - for example, what proportion of ownership would be permitted before an airline was considered to be part of the dominant carrier.

11.40 In addition, it could be argued that an administrative limit above which carriers could not obtain more slots through secondary trading would be unfair if it did not require carriers who already have more slots than the threshold to give up these slots. For example, if the limit was set at a level equivalent to British Airways current proportion of slots at Heathrow, it could argue that this would be unfair if there was not also a requirement on Lufthansa to reduce its slot holding at Frankfurt to a similar level.

11.41 A defined level above which slot acquisitions were not permitted would be a very blunt instrument that could have significant perverse consequences, including preventing the expansion of services by airlines where there are no real competition concerns, whilst failing to address real competition issues at other airports. Therefore, we recommend that the option of an administrative limit on total slot holdings should not be pursued further.

Option C2.3: Prohibition of restrictive covenants

11.42 This option would introduce a clear prohibition on conditions attached to slot

⁷⁷ ACL (2010): Stansted Summer 2010 Seasonal Report

transactions which were anti-competitive, such as requirements not to operate services on particular routes, or to sell the slots on to specific third parties. Prohibition of restrictive covenants was suggested by both the CAA/OFT and European Competition Authorities Air Transport Working Group reports referenced above.

11.43 Many of the airlines and coordinators that we interviewed for the study believed that anti-competitive restrictive covenants would infringe existing competition law. Our legal advisor has also informed us that an anti-competitive restrictive covenant in a slot sale or lease agreement would infringe Article 101 of the Treaty. However, Article 101 would not apply to all slot transactions, as not all would be considered to have a Community dimension. Whilst national competition law in many Member States is modelled on Articles 101 and 102, this is not the case in all Member States.

11.44 Most airlines and coordinators said that they were not aware of any case in which slot transactions had included anti-competitive restrictive covenants. We would not expect airlines that were selling slots subject to restrictive covenants to inform us of this, particularly given these would already infringe competition law in many cases. However, we would have expected airlines that had been net acquirers of slots to have informed us if these were being subject to these conditions. Indeed, as these covenants would already infringe competition law in many circumstances, these airlines might have already have complained to national competition authorities or the Commission if these covenants had existed: in other cases airlines have been willing to report other airlines to competition authorities.

11.45 Any prohibition on restrictive covenants should only cover requirements that have a primarily anti-competitive purpose. However, slot lease contracts do have to be able to limit the ability that the lessee has to change the use of the slot, in order to ensure that an equivalent slot can be returned to the lessor. These restrictions are essential for leases to be able to occur. The lessor needs to be able to ensure that the lessee will:

- comply with the 80/20 rule;
- not lose the slots as a result of penalties for slot abuse;
- not go insolvent (and hence lose slots); or
- not change the slots through retiming or changes to aircraft type or ground facilities used, which would mean that the slots would not be of the same value to the lessor when they were returned.

11.46 In order to allow leases to occur, it should be made clear that conditions may be applied to temporary transfers of slots to ensure that an equivalent slot can be returned to the original carrier at the end of the period covered by the transfer.

Estimate of impacts

11.47 It is not clear how common anti-competitive restrictive covenants are, or even whether they exist at all. Therefore, it is not possible to quantify the impact of prohibiting them. However, provided the prohibition was worded in a way which did not unintentionally prohibit legitimate restrictions (primarily restrictions necessary for slot leases), there would be no negative impact from making clear within the Regulation that these are always prohibited.

Conclusions

11.48 We suggest that, if the Regulation is amended, Article 8a should specify that there should be no conditions attached to slot transfers (whether the transfer is time-limited or permanent) which limit the potential for the acquiring carrier to compete with the carrier giving up the slots. For the avoidance of doubt, and to ensure that slot leases are not unintentionally restricted, it should also state that this does not prevent terms in contracts for time-limited transfers of slots which are necessary to ensure that equivalent slots can be returned to the original carrier at the end of the period for which the transfer applies.

Option C2.4: Post-trade transparency

11.49 In order to achieve a degree of post-trade transparency, various information could be disclosed on trades including:

- the timings of the slots which are exchanged;
- the detail of the transfer (for example whether an exchange or lease); and
- details of any monetary or non-monetary considerations.

11.50 The UK coordinator, ACL, has established a website (slottrade.aero) on which information on the slots which are exchanged is published. The slottrade.aero website is a significant step in improving the transparency of secondary trading in the UK. However, there are two significant limitations:

- There is no obligation on carriers to disclose price or other commercial information to the coordinator, and these are usually not published. This means that market prices are opaque, and it is difficult for the Member State and the Commission to monitor the proper functioning of the secondary slot market.
- There is currently no equivalent tool covering non-UK airports, although this partly reflects the limited volume of secondary trades at other airports, and information is not available on what secondary trades have taken place at these airports.

11.51 Therefore the Regulation could be amended to ensure that:

- All coordinators could be required to ensure that information is publicly available on what transactions have taken place: This could either be achieved by coordinators publishing this themselves, or by contracting another organisation to publish this for them.
- Air carriers could be required to disclose full information, including the price and other commercial details of the transaction, to the coordinator. The coordinator could be required to pass this information on to the State or the Commission if requested, and the appropriate competition authority would therefore be able to investigate whether trading was having any negative impacts on competition.
- The coordinator could either be required to publish prices or other commercial information relating to individual transactions, or could be required to publish a regular summary of prices and other commercial terms without divulging the commercial details of individual transactions.

11.52 These options are evaluated in more detail below.

Coordinator to be required to publish details of transfers

- 11.53 Coordinators would already know what exchanges of slots take place, as exchanges cannot take place without the coordinator's agreement, in order to ensure that the exchange is technically possible⁷⁸. However, coordinators do not necessarily actively monitor to identify artificial or fake exchanges (slot transfers); and even if they do, they do not usually know any conditions of the transfer, for example whether it was permanent (a sale) or time-limited (a lease).
- 11.54 If the Regulation was amended to allow for transfers of slots between air carriers without restriction, it would no longer be necessary for air carriers to undertake artificial exchanges of slots, which the coordinators may not necessarily identify, and therefore this would facilitate introduction of a requirement for post-trade transparency on what trades had taken place. It would be relatively simple for coordinators to maintain and publish a list of these transfers: for example, a list could be published on the coordinator's website, and the costs of doing this would be negligible. The key benefit of doing this would be that it would enable interested parties, including other airlines but also national competition authorities and the Commission, to monitor the impacts that slot trading has had.
- 11.55 However, coordinators would not necessarily know whether a transfer was temporary or permanent, or any of the commercial conditions attached to the transfer, as this would be subject to an agreement between the air carriers concerned; this issue is discussed in more detail below.

Air carriers required to disclose information to coordinator

- 11.56 As noted above, coordinators already know what exchanges of slots have taken place and if the Regulation was amended to explicitly allow transfers of slots between carriers (beyond the limited circumstances where this is currently permitted), the coordinators would also by definition be made aware of this. However, the coordinator would not necessarily have information on:
- whether the transfer was permanent (a sale) or temporary (a lease);
 - whether the transfer was dependent on transfers of other slots; or
 - whether there were monetary payments or other commercial conditions attached to the transfer.
- 11.57 The Regulation could be amended to require air carriers to divulge this information to the coordinator. The key advantage of this would be that:
- it would allow this information to be passed on to the Commission or the Member State if necessary, to allow the authorities (particularly, competition authorities) to monitor the functioning of the slot market; and
 - it would allow for some information to be published (discussed further below).

⁷⁸ A slot exchange might not be possible, even if agreed between the air carriers concerned, if it impacted on use of some other element of airport capacity (for example if the two air carriers used different terminals at the airport).

- 11.58 A possible disadvantage of requiring that this information be disclosed to the coordinator is that airlines might not want the coordinator to know commercially confidential conditions attached to slot transfers. As well as monetary payments, these can include (for example) marketing, ground handling or even revenue-sharing agreements. In our view, it is reasonable for an airline not to want to share this sort of information with the coordinator and its staff: even if they were subject to confidentiality requirements, in practice these can be difficult to enforce (it would be difficult for an airline to claim compensation from a coordinator, as the coordinator generally has little or no assets). Therefore there is a risk that if airlines were required to disclose this, it would make them less willing to undertake trades, thereby reducing slot mobility and hence the benefits of secondary trading.
- 11.59 In addition, a key practical difficulty is that it would be very difficult for the coordinator to enforce disclosure. Airlines could circumvent any requirement for disclosure, for example by having two contracts, one of which was a contract for the transfer of the slots (which would be disclosed), and another which included the other conditions, but which was dependent on the first contract being implemented. The coordinator would have no way of knowing that undisclosed commercial conditions had been agreed separately. Unlike competition authorities, the coordinator does not have the powers, capability or resources necessary to investigate transactions and force disclosure of documents.
- 11.60 In our view, these issues mean it is probably neither beneficial nor feasible for airlines to be required to divulge commercial information on slot transfers to the coordinator. However, these issues do not necessarily apply to information as to whether a transfer is permanent (a sale) or temporary (a lease). The difference between this information, and other commercial information relating transfers, are:
- It is clearly reasonable for the coordinator to know if a transfer is permanent or not, as it could be relevant to the planning of airport capacity allocation
 - The coordinator could at least in some cases identify whether a transaction was an exchange or a lease, as the coordinator would have to be informed of, and approve, the return of the slot at the end of the lease
 - As there is more scope for the coordinator to identify leases, there is more scope to take action if the carriers had not notified this: for example, the coordinator could refuse to authorise the return of a slot at the end of a lease if it had not been informed that the transaction was a lease.

Public disclosure of prices

- 11.61 Public disclosure could be required, either of:
- prices for individual slot transactions; or
 - summarised price information, covering all the transactions at an airport.
- 11.62 The main benefit of revealing at least summarised information on slot prices is that it would be transparent to airlines what the value of slots were. This might encourage some airlines to give up slots for sale, increasing the number of transactions and hence the benefits of secondary trading. This could also assist competition authorities in monitoring the market, although competition authorities already have powers to

undertake investigations and could therefore require that they be given price information, so the effect would be quite limited.

11.63 A key limitation is that price information could be quite misleading, as (according to airlines and other stakeholders interviewed for this study) many trades include non-monetary elements and are part of wider commercial agreements between airlines; therefore, the level of the price, or the lack of any price, is not sufficient as a guide to the real value of a slot. Also, some transactions cover multiple slots and therefore no price would be attributed to individual slots: an average price would be of only limited use, as there is so much variation in price between slots (as discussed in section 5 above, an early morning arrival slot at Heathrow may be worth 10 times as much as an evening arrival slot). Furthermore, for the same reasons discussed above, a requirement for price or other information to be released would be almost impossible to enforce, as it could not be proven what other commercial agreements were related to a slot trade.

11.64 We discussed with airlines and other stakeholders whether post-trade transparency about prices would be beneficial. No airlines interviewed for the study favoured price disclosure - either incumbent network carriers or growing low cost carriers. Some considered that a requirement to divulge information about prices could reduce the number of trades, which would make the slot market less liquid and therefore reduce the benefits from secondary trading. Many pointed out that releasing information on the price alone would be misleading, but argued that requiring other commercial agreements to be released would be inappropriate as other inter-business commercial agreements are confidential.

Costs

11.65 The costs of implementing post-trade transparency would be minimal:

- Costs would be incurred by coordinators in collecting information on transfers, the characteristics of transfers (sales or leases), and any commercial information they were required to collect. These would vary significantly between coordinators, as there would not be secondary trading at all coordinated airports, and would be low in all cases, as the number of trades is relatively low. For airports with secondary trading we estimate that this might take the coordinators approximately two working days per season to collect and manage this information on average.
- There would also be some costs associated with setting up a website to publish information on transfers. If the website was very simple (a text listing of slots transferred) the cost to set this up could be around €1,000-2,000 per coordinator and ongoing costs to maintain this could be incurred of around €500-1,000 per year.

11.66 These would be administrative costs, and as most of the costs would not otherwise be incurred by coordinators, most of these costs would be administrative burden; ACL would already meet the requirement and therefore, for it, these would be business as usual costs. We estimate EU-wide administrative costs per year of €64,188 of which €57,769 would be administrative burden. A breakdown of this is provided in appendix 4.

Conclusions

- 11.67 The coordinator should be required to make public details of all transfers, showing the time of the slot, the airline giving up the slot, and the airline acquiring the slot. We also suggest that airlines should be required to disclose to the coordinator whether an exchange is permanent or temporary, and (if applicable) the length of time for which the transfer applies, or whether it is of indeterminate length; this information should also be published by the coordinator.
- 11.68 However we recommend that airlines should not be required to disclose other commercial information such as the price to the coordinator, and therefore there should be no requirement to publish this. This is because this information is commercially confidential and a requirement to release it might reduce the number of trades, and hence reduce the benefits of secondary trading. In addition there is a risk that the information would be misleading (because there might be other commercial agreements between the airlines) and this requirement would be difficult or impossible to enforce.

Option C2.5: Pre-trade transparency

- 11.69 As noted above, the UK coordinator, ACL, has established a website (slottrade.aero) on which carriers can advertise that they wish to give up slots, or that they are willing to purchase slots. The website shows details of the slots that carriers wish to obtain or give up, but the name of the carrier does not have to be shown, as airlines might not want this to be known:
- if the airline is considering giving up a route, it might not want to notify their staff or customers of this until it had made a definite decision; and
 - if the airline is considering acquiring slots to launch a route or expand services, it might not want to alert potential competitors.
- 11.70 Use of the website is optional. The coordinator has no powers to compel airlines to advertise that they wish to buy or sell slots. This is different to the situation in the US, where the FAA requires airlines to advertise slot sales.
- 11.71 If secondary trading was expanded to other airports, coordinators could be required to ensure that there was a similar website or other forum for advertising slot requirements or availability. We have considered:
- whether use of this website should be compulsory for carriers who wish to undertake slot sales or acquisitions; and
 - whether the provision of the website should be required by the Regulation.
- 11.72 There are a number of practical difficulties with use of a website such as this being compulsory. If airlines wished to conclude a trade through a bilateral deal, it is hard to see why they should be prevented from doing so, in the same way that other transactions (such as property purchases) can be concluded bilaterally without any requirement to advertise. Even if use of the website to advertise a potential transaction was compulsory, it would be impossible to prevent airlines from agreeing bilaterally to undertake a transfer, and then advertising it without any intention of accepting

proposals from other airlines. In addition, if it was to be useful, a requirement to advertise a potential transfer would have to include a requirement to advertise for a certain period – but this would prevent transfers from taking place urgently where this was necessary (for example if an airline had financial problems, or temporarily could not operate a particular route for a particular reason). Therefore we conclude that use of this website would have to be optional.

- 11.73 In our view, ideally the Regulation would not specify precisely how a service such as this should be provided, as the objective of pre-trade transparency could be achieved in many different ways: for example, it might be more efficient for a single provider to offer a website covering all of Europe, or for there to be two competing websites, rather than for each coordinator to provide their own. In addition, the Regulation should not require provision of a website such as this covering airports at which there are few or no secondary trades.
- 11.74 Therefore, we suggest that the Regulation should state only that the coordinator should ensure that, at airports where significant number of secondary trades occur, there is a mechanism available for airlines to publicly advertise their willingness to purchase, lease or give up slots. It would be up to coordinators to decide how best to implement this and the Commission would need to monitor to ensure that they did implement it effectively.

Costs

- 11.75 The costs for the coordinator in creating a website such as this should also be small. It would be slightly more complex than the website required as part of option C2.4 (post-trade transparency) as airlines would have to be able to post and edit information on trade requests, but the website could still be a simple bulletin board, of which there are many already available. At most we estimate that the cost of setting this up would be around €3,000 per coordinator and there would be ongoing costs of around €500-1,000 per year to maintain the website; and that there would be staff costs incurred of one day per season per airport at which secondary trading occurred to manage the website and check information.
- 11.76 This equates to an administrative cost of €39,058 on average per year during the impact assessment period, of which €35,152 would be administrative burden, as most coordinators (apart from ACL) do not already offer a website such as this. A breakdown of this is provided in appendix 4.

Option C2.6: Blind auctions of slots

- 11.77 We have identified one press report of a case where a carrier used an auction to dispose of slots through the secondary market at Heathrow. However, there is no obligation on carriers to do so. In this scenario, carriers would be able to give up slots and receive the revenue from the sale, but the slots would have to be disposed of through a blind auction. This could either be administered by the coordinator or a third party (it is not material for the purposes of evaluating the option who should implement it).
- 11.78 Section 5 above shows that a disproportionate number of trades at Heathrow and

Gatwick are between alliance partners, although ACL informed us that the most valuable slots tended to be disposed of to the highest bidder, with alliance partners sometimes competing against each other, as the seller sought to obtain the highest value from the sale of a valuable asset.

11.79 The main benefit of centralised auctions of slots returned to the pool is that this would ensure trades were ‘blind’. Carriers might be reluctant to dispose of slots to entrants who would compete directly with them, but would not be able to influence who obtained the slots in this scenario.

11.80 However, this needs to be offset against several disadvantages:

- At present, a significant proportion of trades are leases rather than sales. Whilst the nature of each transaction is not transparent, information given to us by airlines indicates that leases account for the majority of transactions. It would not be possible to arrange leases on a blind basis, as the lessor must know the identity of the lessee in order to be confident that the lessee will be able to return the slot to the lessor at the end of the lease (and will not, for example, have lost the slot due to abuse or failure to meet the utilisation criteria, or have changed the timing or use of the slot). In addition the lessor must be confident that it would be able to claim compensation from the lessee.
- As discussed in section 5 above, many slot transactions include non-monetary elements, such as codeshare or ground handling agreements, or depend on transactions at other airports. These could not be achieved if there was a blind auction.
- Although a carrier might be reluctant to sell a slot to a competitor, the blind auction may discourage it from selling the slot at all, because of the risk that a competitor would purchase it.

11.81 As a result, there is a significant risk that a requirement that slots could only be disposed of through blind auctions would reduce the number of transactions and hence reduce the benefits of secondary trading. Whilst some leases would be replaced by sales of slots, many transactions would not happen at all, and therefore the number of transactions, and hence the benefits of secondary trading, could be reduced significantly. This needs to be offset against the potential benefit in terms of competition.

Option C5: Withdrawal and auction of slots

11.82 We discuss together the option of withdrawal of slots with the options for auctioning of slots, as these are inter-dependent. There would be no benefit in withdrawing slots other than to auction them, except in occasional cases where it might be necessary to withdraw slots from a carrier for competition reasons⁷⁹. The option of auctions for pool slots is discussed further below.

11.83 The analysis demonstrates that the turnover of slots at some of the most congested

⁷⁹ It is assumed that this will continue to be decided by the appropriate competition authorities on a case-by-case basis.

airports is low, and that the new entrant rule has not been an effective means of facilitating sustainable new entry. As described in section 5 and discussed above, there is evidence that the administrative mechanism for slot allocation has led to use of slots which is economically inefficient at some of the most congested airports where secondary trading does not occur. At Düsseldorf, Paris Orly and some other congested airports, despite the demand for passenger travel exceeding the supply, some airlines use a high proportion of quite small aircraft. This reduces the number of passengers that can be carried within the limited capacity available. There is also evidence that secondary trading, at those airports at which it takes place, has had a positive impact in terms of improving utilisation in scarce capacity, in that it has led to the operation of larger aircraft and the number of passengers per aircraft has increased.

The extent to which secondary trading addresses the problem

11.84 In principle, there should be no difference in outcome between primary auctions and secondary trading: both should lead to an economically efficient outcome as carriers should consider the opportunity cost of holding slots as being equivalent to the costs of acquiring them. However, in practice, there are a number of reasons why secondary trading would not be expected to generate an economically efficient outcome, even if it applied at all EU airports:

- Even at Heathrow, where the secondary market is most fluid and transparent, the number of trades is low in comparison to the number of slots (approximately 3% of slots are traded each year on average)
- There are transaction costs, which vary depending on the complexity of a particular agreement. Although this is low in proportion to the value of slots at Heathrow, and therefore should not reduce the number of trades at this airport, it would contribute to the low number of trades at other airports where slot values are much lower.
- Trades depend on bilateral negotiations and whilst the coordinator or other parties may be able to seek to match airlines wishing to buy and sell slots, this may be problematic.

11.85 In addition, the argument that secondary trading would lead to the same result as a primary allocation based on market mechanisms relies on the assumption that airlines are rational economic agents and therefore view the opportunity cost of retaining slots as equivalent to the monetary cost of acquiring them. However, not all airlines behave as rational economic agents. Some are State owned and (particularly outside the EU) may enjoy direct or indirect government support. Indeed, given the low financial returns of the industry, it could be argued that many airlines are not rational economic agents: if they were, the industry might be smaller⁸⁰.

11.86 In addition, at many airports, the dominant airline and its alliance partners are likely to have market power, due to their high share of slots. Under these circumstances the airline which has the highest marginal valuation for a slot is not necessarily the most efficient holder of the slot.

⁸⁰ For example, IATA reported on 21 September 2010 that its members had made a US\$50 billion loss in the previous decade and at the height of the economic cycle profit margins were only 2.5%.

11.87 There is therefore a risk that:

- An airline may hold on to slots despite the sale value of the slots being greater than the profit it could make from using them, if the airline's shareholders or management are not just seeking to maximise profit⁸¹. This risk would still apply if there was an auction for the primary allocation of slots, but should be reduced by the fact that the airline would face a substantial cash outlay in order to obtain the slots.
- An airline may hold on to slots because it is not aware of the profit that it could be from disposal of the slots, it is not clear how to dispose of the slots, or because it perceives that the transaction costs are excessive (although this seems unlikely to be a major issue with secondary trading at present, given the number of carriers that have participated in trades at Heathrow and Gatwick).
- Some incumbent airlines may retain slots, particularly at their main hub, even if their operations using the slots are not profitable, to prevent other airlines competing against them ('slot hoarding'). Again, there would still be a risk of this if there was an auction for the primary allocation, but this risk should be reduced by the need to pay for the slots.

11.88 In principle, an auction should be much more likely to lead to an efficient allocation than any administrative mechanism. The airlines that would make the highest profits from the use of slots would be those that would use the slots most efficiently; and because they would make higher profits, they would be willing to pay the most for the slots. It would generally be possible to make a higher return on a slot where:

- the slot was used for a flight with a larger aircraft, as it would then be possible to recover the costs of the slot over a larger number of passengers; and
- the slot was used for a longer distance flight, as the price of the slot would then be a smaller part of the total cost of the flight.

11.89 Therefore, an auction should lead to an increase in capacity, more passengers being able to travel, and more slots being allocated to long haul flights. If it did this, it would lead to lower fares for consumers, and higher employment. At some airports an auction could also raise significant revenue, although as this would be a transfer of the 'scarcity rent' airlines should currently be able to earn at these airports to another body, it is not relevant in economic terms and is not considered in this assessment. The extent that this could be achieved would depend on the design of the auction mechanism and the characteristics of the demand for slots at the specific airport.

11.90 In addition, allocation of slots by auctions could be considered more equitable than allocation through historic preference. Historic preference gives a major, and arguably unfair, advantage to airlines that obtained slots in the past, often when the airport was less busy and slots had little value, and when the air transport market was subject to more restrictive regulation and therefore it was difficult or impossible for competitors to enter the market.

⁸¹ For example, the States of Guernsey decided in 2010 not to sell the carrier it owns, Aurigny Airlines, because there could be no guarantee that the new owner would retain its Gatwick slots. Source: news.bbc.co.uk, 14 September 2010

11.91 However, there are a number of issues with withdrawal and auction of slots that need to be taken into account. Depending on the circumstances, these issues could outweigh the benefits of the auctions.

Practical issues to be addressed

11.92 A significant practical problem with withdrawal of slots and auctions is the complexity of the auction process. This complexity is significantly greater than applies in other market sectors such as for radio frequencies, which are discussed further below. This is because:

- A very large number of slot series would need to be auctioned each year, even if a relatively small proportion of slots (10%) were withdrawn from carriers. There would therefore be a large volume of slots to distribute through the auctions. Although a lower proportion of slots could be withdrawn (the FAA's proposal at the New York airports was to withdraw 2% of slots per year for 5 years), this would substantially reduce the potential benefits of the auctions in terms of improved market liquidity.
- Slots are not heterogeneous assets and there may be significant differences in value to carriers of slots that appear very similar. Where a hub carrier operates a 'bank' of departing flights between (for example) 10:00 and 11:00 at its hub, a slot at another airport which allows good connections into the bank may be valuable to the carrier whereas a slot that is a short time later may be valueless to it. This means that auctions would have to be for slots within relatively short time bands (15-30 minutes), or individual slots. This increases the complexity of the auction process. Also, arrival and departure slots would need to be auctioned separately because turnaround times are different for different types of service. If they were auctioned as pairs, it would be difficult to change the use of slots between short and long haul services, or between network and low cost carrier operations – which would be a key potential benefit of an auction.
- Auctions at different airports would be interdependent. For example, a carrier seeking to operate a service between Heathrow and Frankfurt would need to bid for slots at both airports, which would create a problem if it won slots at one airport but not the other. This is further exacerbated by the fact that an aircraft will often be used for several flights between coordinated airports each day: a short haul aircraft would typically operate three rotations (six takeoffs and six landings). This means that, for an aircraft that was programmed to operate three rotations between coordinated airports in a day, even if only 10% of slots were withdrawn each year, on average at least one slot from the programme of the aircraft would be withdrawn and auctioned each year.
- Slots are permissions to use the full range of airport infrastructure, not just the runway. A carrier might win slots at an airport for operations at a particular time, but then find that, due to the identities of the other carriers that had won slots at the same time, there was not sufficient capacity in the terminal that it used, or not sufficient stands available for the aircraft of the type that it operated. This is already an issue with secondary trading, but is addressed by slot exchanges being subject to agreement by the coordinator; this would not be possible for an auction.
- The number of slots available in an hour is dependent on which aircraft are operated. At Heathrow, the capacity in terms of movements per hour is lower in the hours in which there are a greater proportion of very large aircraft operating, because the runway occupancy time of larger aircraft is longer. This would mean that the number of slots available to auction would depend on something that

would not be known until the auction was complete.

- In order to allow scheduling of air services between coordinated airports in the EU and coordinated airports in other countries, auctions for slots at EU airports would need to fit into the current worldwide IATA schedule planning system. Airlines might be reluctant to bid for slots at an EU airport if they were unsure whether they would obtain slots through the normal allocation process at the other airport.

11.93 As a result of these factors, it is unlikely that any initial auction would lead to an efficient (or even operationally possible) outcome and there would be substantial reliance on secondary trading in order to address the deficiencies in the initial allocation. Airlines regularly exchange slots in the biannual schedule planning and slot allocation process, but this would be much more complex:

- As schedules would have to be entirely re-planned each year, the volume of exchanges that would be required would be much greater.
- Slots available for exchange would substantially differ in value, both due to differences in timings of the slots but also the number of years remaining until the slots were next to be withdrawn. As a result, most exchanges would require payments between the carriers, whereas exchanges in the current biannual process do not. The process of evaluating potential exchanges would inevitably be more complex as airlines would wish to ensure that each transaction was good value.

11.94 Therefore, it might be difficult to complete the number of secondary trades necessary to optimise the slot allocation after the auctions within the limited time available in the biannual schedule planning and slot allocation process.

11.95 As a result of all these factors, there is a significant risk that withdrawal of slots and auctions would not lead to an efficient outcome. In particular it could lead to:

- in effect, a reduction in the amount of useable capacity at some congested airports, as airlines would not be able to undertake the number of secondary trades required to ensure that all capacity was allocated to airlines and services that could use it; and
- lower utilisation of aircraft and air-crew, leading to higher operating costs for airlines, as they would not be able to optimise deployment of their fleets.

11.96 We have tried to estimate these impacts below, although as there is no experience of withdrawal of slots on which to base this analysis, this should be considered as illustrative only.

Other issues with withdrawal of slots

11.97 In addition to the practical issues with the organisation of withdrawal and auctions discussed above, there are a number of other issues with withdrawal of grandfather rights:

- With a few exceptions such as Ryanair, most airlines are in weak financial position due to the price-competitiveness of the industry and the cyclical nature of demand. This means that they might have difficulty in raising finance to purchase slots, or to fund other capital investment. It is possible that a carrier might not be able to finance slot purchase even where it was the most economically efficient purchaser of the slots. Although in principle this seems unlikely (if an investment

has a good rate of return it should be possible to raise finance), an aviation market analyst interviewed for this study confirmed that airlines might have difficulty raising finance if they were subject to withdrawal of slots⁸².

- Withdrawal of slots would create substantial practical problems for airlines, in terms of planning their networks, staffing, fleet, and other capital investment. In particular airlines might be reluctant to invest in new aircraft because of the uncertainty as to how they could deploy them.
- Network airlines typically take bookings up to 1 year in advance for flights for which they have historic rights to the slots and are aware that they plan to operate. On long haul flights, a significant proportion of bookings are made months in advance; charter flights are also arranged many months in advance. This would not be possible if airlines were not clear that they would retain the slots, although this could be addressed by undertaking the auction several months before the start of the season.
- Depending on who received the revenue from auctions, there could be a perverse incentive not to expand airport capacity. If the government received the revenue, it might have an incentive to refuse to grant permission for capacity expansion, and if the airport operator received the revenue, it could have an incentive not to pursue the capital investment required to expand capacity.
- If withdrawal also applied to non-EU carriers, there would be a risk of retaliation against EU carriers at airports outside the EU. Carriers cited examples where non-EU States had used the slot allocation system at their airports for aero-political reasons. However, if withdrawal did not apply to non-EU carriers, this would disadvantage EU carriers in competing against non-EU carriers.
- Some airlines argued that withdrawal of slots and auctions at EU airports would disadvantage EU carriers in competition with non-EU carriers, particularly Middle Eastern carriers, that do not face equivalent issues at their hubs.

11.98 It was also stated by some stakeholders that withdrawal and auction would lead to higher fares for consumers, as airlines would need to recover the price paid in the auction. However, in our view this should not be the case. When setting fares for individual flights, airlines should charge the price that maximises their profit, regardless of what they had previously paid for the slot. Where demand exceeds capacity, airlines that hold slots should be able to charge fares higher than their operating costs, and therefore benefit from a ‘scarcity rent’. Paying for slots will reduce the airlines’ profit margins, transferring this scarcity rent from the airlines to the government or whichever other body receives the auction revenue. However, if some airlines cannot afford to purchase slots at the auction price because their potential profit margins from use of the slot are too low, the slots are likely to be purchased by other airlines whose potential margins from use of the slots would be higher. This is consistent with the objective of economically efficient use of capacity. At airports at which demand does not exceed capacity, the auction price should be zero, and therefore there is also no impact on fares at these airports.

11.99 Similarly, although withdrawal of grandfather rights could make airline operations at the most congested airports less efficient and therefore increase airline operating costs, this should also reduce scarcity rents (i.e. airline margins), rather than increase fares.

⁸² Interview with Andrew Lobbenburg

Again, this might prompt some lower-margin airlines not to bid for slots, because they could not use them profitably, but this would be consistent with the objective of economically efficient use of capacity. At less congested airports where there are no scarcity rents, if withdrawal of grandfather rights caused fragmentation of the schedule and increased operating costs, this might prompt airlines to cut capacity and charge higher fares; however, this probably would not occur because, at these airports, airlines would generally be able to get slots at their preferred times.

- 11.100 As discussed in section 7 above, withdrawal of slots would probably be subject to legal challenge. Slot withdrawal would be most likely to be challenged on the basis of inconsistency with bilateral agreements, particularly the EU-US Open Skies Agreement, as well possibly as on the basis of the Chicago Convention and more general principles of Community law. Our legal advisors believe that the case for challenge under the Chicago Convention is weak but that there is a stronger case under the EU-US Open Skies Agreement. At best, legal challenge would delay the implementation of any auction.

Option for withdrawal at a limited number of airports only

- 11.101 If withdrawal and auctions were to be implemented, there is a strong argument that this should be at a limited number of airports only:

- As identified in section 5 above, at many coordinated airports, slots are readily available through the pool. If a proportion of slots were withdrawn from a carrier at one of these airports, the carrier would know that it would be able to replace these with pool slots, and therefore it would not need to participate in the auction. At these airports, there would be no benefit in implementing auctions, as the value of the slots to be auctioned would be zero and the only impact of the auction would be the cost of undertaking it.
- In addition, some of the problems with withdrawal of grandfather rights could be addressed by applying this policy only at a small number of the most congested airports. For example, if withdrawal only occurred at London Heathrow and Paris Orly, there would be no issue of coordinating inter-dependent slot auctions at different airports, as these airports have few direct flights between them⁸³. However, it would still be necessary to coordinate auctions at these airports with the administrative allocation mechanism based on grandfather rights at other airports, the other issues identified with withdrawal of slots discussed above would still apply.

- 11.102 At airports such as Madrid and Vienna where demand exceeds capacity in a few peak hours only, an auction would have some impact in terms of ensuring peak slots were allocated to the airlines which placed the highest value on them. However, even during the peaks, some pool slots are usually available; overall we would expect the auction price to be very low at these airports and therefore the auction to have little impact.

⁸³ There are currently two daily services operated by British Airways between Heathrow and Orly, a service introduced at the start of 2011.

11.103 A key issue to be addressed in these circumstances is how it should be determined at which airports withdrawal should be applied at. This could either be partly discretionary (with the Member State deciding), or on the basis of fixed criteria. Fixed criteria are probably necessary if the Commission wants to introduce withdrawal, as if States had the option as to whether to implement slot withdrawal and auctions, it seems likely (based on States' responses to the public consultation) that most and possibly all States would decide not to implement it. This could be because they opposed the principle for the reasons outlined above, but could also be to protect their national carriers and give these carriers an advantage relative to carriers based in any States which did decide to implement slot withdrawal. Individual States could also be more concerned about the risk of retaliation.

11.104 If fixed criteria were to be adopted, possible criteria could be:

- Airports at which the mobility of slots was below a threshold: However, this would be easy to circumvent; airlines could transfer slots to/from subsidiaries, or between each other, to ensure mobility was above the threshold, without any genuine mobility of slots. Also, as discussed above, slot mobility is not an objective in itself.
- Airports at which the number of slots allocated to new entrants was below a certain proportion of total slots: However, this would also cover some more moderately congested airports, as airlines tend not to claim new entrant status where it is not necessary to do so in order to obtain slots.
- Airports at which the number of slots allocated from the pool was below a certain proportion of total slots: This appears to be the most realistic option. It probably would not be circumvented, as airlines would be reluctant to return valuable slots to the pool and have them allocated to other carriers, just to avoid the risk of withdrawal and auction of these slots.

11.105 Therefore, we suggest that if this option was to be implemented the Regulation would state that withdrawal of slots would apply:

- where the number of slots allocated from the pool was less than 2% of the number of slots allocated on the basis of historic precedence, on average over four scheduling periods; and
- where initial requests for slots exceed capacity for at least 8 hours per day; and
- where it is not expected within the next 3 years that capacity will be expanded sufficiently to accommodate demand⁸⁴.

11.106 On the basis of the analysis set out in section 4, initially only Paris Orly, London Heathrow and possibly also Milan Linate⁸⁵ would meet these criteria. It is possible that Düsseldorf and London Gatwick would also start to meet the criteria at some point during the period covered by the impact assessment. However, as agreed with

⁸⁴ This condition is necessary to avoid introducing withdrawal when capacity is being expanded – for example there would be no point introducing withdrawal of slots at Frankfurt in 2011, shortly before the new runway opens, as this will provide sufficient capacity.

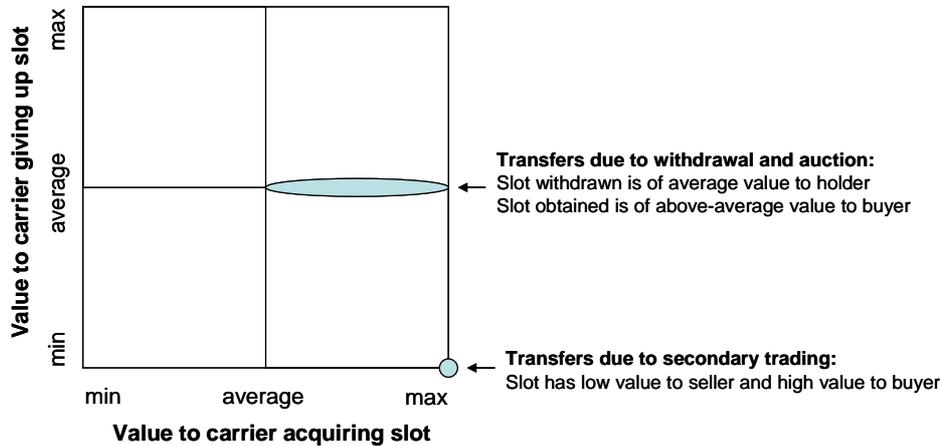
⁸⁵ Data insufficient for Linate to test whether it would meet these criteria. However, in any case, slot withdrawal and auctions at Linate would have limited benefits unless the Bersani Decree was withdrawn or amended.

the Commission, we have tested this scenario on the assumption that it applied at London Heathrow and Paris Orly only.

Estimate of impacts

- 11.107 This section sets out how we have estimated the impacts of withdrawal and auction of slots at Heathrow and Orly. It should be emphasised that withdrawal and auction of slots has not been tested at any major airport anywhere (the proposal to apply this at the New York airports was never implemented), and therefore this analysis can only be indicative of the impacts which might occur. For some of the potential negative impacts, we have defined both high and low scenarios, due to the inherent uncertainty:
- in the high negative impacts scenario, the negative impacts of withdrawal and auctions are the maximum that we believe to be reasonably feasible; and
 - in the low negative impacts scenario, the negative impacts of withdrawal and auctions are the minimum that we believe to be reasonably feasible.
- 11.108 It is assumed that 10% of slots would be withdrawn and auctioned each year, until all slots had been withdrawn. Therefore, the impacts build up gradually over 10 years; it is assumed that there are no further impacts after 10 years. The main operational impact of slot withdrawal and auctions should be a change in the type of flights operated, and the types of aircraft that would be used. In assessing the impacts of withdrawal and auctions, we always assume that secondary trading would be permitted, as it would be necessary to allow secondary trading to address any deficiencies in the initial auction allocation.
- 11.109 At **Heathrow**, the impacts of withdrawal and auctions can be estimated based on the types of flights for which slots have been bought and sold on the secondary market. As set out above (see Table 11.1), secondary trading has typically led to larger aircraft sizes, and a change in type of flights towards long haul, particularly flights operated by non-EU carriers. If slots were withdrawn and auctioned, these changes would apply to a much larger number of slots (in this scenario, 10% per year instead of an average of 3.3% per year due to secondary trading). However, the change in use in each individual case would be lower:
- Airlines that are the least efficient users of slots would be most likely to give up slots through secondary trading, as these would be making the lowest returns from slots and therefore the slots have the lowest possible value to them; whereas in this scenario all slots would ultimately be withdrawn, including those which are most efficiently used at present. Therefore the slots withdrawn would equate to average slots at the airport. This factor reduces the potential benefit from each individual slot transaction.
 - Similarly, only airlines that would be the most efficient users of slots would be likely to purchase slots (either through an auction or on the secondary market). As more slots would be available through the auction than on the secondary market, the marginal value of acquired slots to the buyers should be less. In total, the value of the slots to the buyers would be some way between the value of slots obtained through secondary trading, and the current average slot value across all slots at the airport. Therefore this also reduces the benefit from the transfer, compared to secondary trading.

11.110 Therefore, on average, the increase in aircraft size and the change in use in each case that a slot was transferred due to withdrawal and auction would be less than that achieved for each transfer of a slot due to secondary trading. This concept is illustrated (in simplified form) on the figure below. Nonetheless, as the number of slot movements would be greater in the case of slot withdrawal than in the scenario where there was secondary trading only, the overall effect should still be stronger.



11.111 At Orly, there is no equivalent evidence to suggest which airlines would buy and sell slots. Therefore, we use the same assumptions as set out above for which airlines and types of flight would buy slots as in the case of secondary trading at Orly. As for Heathrow, the net effect of each slot transaction would be less than in the case of secondary trading, but as the number of slot movements would be greater, the effect should be stronger.

11.112 At Heathrow (but not Orly), secondary trading would be occurring anyhow, in the baseline scenario. Therefore, the benefits of slot withdrawal and auctions at Heathrow are lower, reflecting the fact that some of these benefits are already obtained from secondary trading in the baseline scenario.

11.113 Withdrawal and auctions would also have some negative impacts which we have sought to estimate. As a result of fragmentation of the schedule, withdrawal might lead to **increased airline operating costs**. This is particularly an issue for short haul flights: short haul aircraft are usually planned to do 3 rotations to/from the main hub each day, and therefore the programme for one aircraft would be impacted six years out of ten by slot withdrawal. In most cases, the airline should be able to obtain an appropriate slot (either through the auction or from secondary trading) to carry on achieving the same level of aircraft utilisation, but in some cases this would not be possible. As it is uncertain to what extent this would happen, we have tested a high and a low impact scenario. The methodology and rationale for this is discussed in more detail in the box at the end of this sub-section.

11.114 It has previously been argued also that slot withdrawal would lead to an overall **reduction in the number of slots for which flights could be scheduled** at congested airports. This could happen because the fragmentation of the schedule would result in a number of individual slots becoming available at inconsistent times, which airlines would not be able to combine to operate commercially attractive or operationally

possible services. For example, if an early morning arrival and departure slot pair at Heathrow currently used for a Lufthansa flight from/to Frankfurt were withdrawn and auctioned, a non-EU airline might purchase the arrival slot for a long haul flight, but it would not want a departure slot at this time, and the departure slot on its own would be of no use to another short haul airline as it would not be able to obtain a corresponding arrival slot; therefore, the departure slot might not be used.

- 11.115 Again, as it is uncertain to what extent this would happen, we have tested a high and a low scenario. At Heathrow, in the low impact scenario, the reduction in the number of slots for which flights can be scheduled is 0.5%, and in the high impact scenario it is 2%. This effect would be much less at Orly than Heathrow, as there are few constraints at Orly other than the annual slot cap. However, it could still occur - for example if, after an auction, an airline found that it did not have sufficient slots to offer a commercially attractive service on the route had previously served, it might not wish to operate the slots it still had, but it could be too late by this point to trade them, or they might be unattractive to buy (if they were due for withdrawal in 1-2 years an airline probably would not buy them, however low the price, because this is not time to launch a viable service). In the low impact scenario we assume no reduction in slots allocated at Orly and in the high impact scenario we assume 0.5%.
- 11.116 There would also be a **cost of management of the auctions**. The best guidance for this is the cost that auctions were expected to incur at the New York airports, as these were at an advanced stage of planning when suspended, and the FAA had already procured an auction design company to design the auctions and another company to design and operate the systems. It expected to incur setup costs of US\$1.7 million at each airport and then a further US\$0.9 million per year. Auctions at Heathrow and Orly would be more complex to design and manage given the much larger number of daily slots being auctioned: at Heathrow, approximately 10 times as many, and at Orly, approximately 5 times as many, although the costs should not increase in direct proportion to the number of slots being auctioned. Therefore, we have assumed that compared to the New York auctions, the costs would be 50% higher at Orly and 100% higher at Heathrow.
- 11.117 In addition, airlines would incur costs in both preparing for and undertaking the auctions, rearranging their schedules, and in undertaking the secondary trades necessary to address the deficiencies in the initial allocation. In the interviews undertaken for this study, airlines indicated that they would need to significantly increase the size of their scheduling teams. We have assumed that:
- At each of Heathrow and Orly, the main based airline would need to increase their scheduling staff by 3 FTE, and other airlines with significant operations at these airports (more than 3% of slots) would increase their scheduling staff by 1 FTE
 - Secondary trades would be necessary for 30% of slots allocated through the auction, and the legal cost per trade is assumed to be equivalent to that outlined under option C2 above.
 - Partly offsetting this, the costs associated with the current level of secondary trading (at Heathrow) would be avoided.
- 11.118 Prices paid for slots in the auction should have no impact on **average fares** as these are a sunk cost. In addition, even though we estimate that airline operating costs would

be increased (as argued above), which impacts all airlines at the airport, this also should also not result in higher fares: if demand is greater than capacity, airlines should currently be benefiting from scarcity rents, which would be eroded by the increase in their operating costs. However, average fares would still be impacted in this scenario: if withdrawal and auctions resulted in more capacity being made available at the airport, this should result in lower fares, as average fares would have to be reduced in order to attract more passengers to use air services from the airport. This would be partly offset by any reduction in the proportion of capacity that could be utilised.

Approach to calculating additional operating costs caused by slot withdrawal

Withdrawal of grandfather rights might make airline schedules less efficient, because airlines might not be able to obtain slots through the auction to enable flights to take off and land at times which maximised utilisation and minimised turnaround times. This would lead to reduced aircraft and crew utilisation, and hence increase costs per flight relating to aircraft (including aircraft leases, and maintenance) and crew costs. Other airline operating costs, such as fuel, landing and navigation charges, and marketing-related costs, are related to the number of flights actually operated and so would not be impacted on a per-flight basis. Aircraft and crew costs together account for approximately 40% of costs on short haul flights and 30% of costs on long haul flights.

Airlines would seek to mitigate the impacts through secondary trading, but this would not always be possible, as a result of the large number of trades that would be required in a limited timescale, and the complexity of arranging these trades, given the very different values slots would have (depending on when they were next due to be withdrawn). The main based network carrier (British Airways at Heathrow and Air France at Orly) could also mitigate the impacts on its own operations through rearrangement of its other slot holdings, but this would usually not be possible for other airlines whose slot holdings at these airports are much smaller.

The impact of this would be different for short and long haul flights:

- A short haul aircraft is typically used for 3 rotations (6 flights) per day. Therefore, if 10% of takeoff and landing slots were withdrawn each year at the airport at one end of the route, the programme for each short haul aircraft would be impacted 6 years in each 10.
- A long haul aircraft is typically used for 1-2 rotations every 2 days, depending on route length (1.5 flights per day). Therefore, if 10% of slots were withdrawn each year, the programme for each long haul aircraft would be impacted 1.5 years in each 10.

We have assumed that in most cases the airline would be able to find another equivalent slot, either by buying slots in the auction, rearranging other flights, or through secondary trading, so that there was no impact, but in some cases they would not be able to, and so aircraft and crew utilisation would decrease. Indicatively, we have assumed that every time a slot was withdrawn at Heathrow, the number of flights per day that could be achieved with the aircraft programmed to use that slot would be reduced by 0.5% (low impact scenario) and 1.5% (high impact scenario). Over 10 years, the average utilisation of short haul aircraft and crews would be reduced by 3-9%, and long haul by 1-2%.

This would equate to increases in airline operating costs as follows:

- High impact scenario: short haul 3.5%, long haul 0.7%
- Low impact scenario: short haul 1.2%, long haul 0.2%

At Orly, airlines have much more flexibility to rearrange their slot holdings, as there are in effect no constraints other than the annual cap. Secondary trading would also be easier for this reason. Therefore, we have assumed that every time a slot was withdrawn at Orly, the number of flights per day that could be achieved with the aircraft programmed to use that slot would be reduced by 1% (high impact scenario) but not at all in the low impact scenario. This would equate to increases in airline operating costs at Orly as follows:

- High impact scenario: short haul 2.4%, long haul 0.5%
- Low impact scenario: zero

- 11.119 As discussed above, with the criteria proposed for withdrawal and auctions, initially this would only apply at Heathrow and Orly; however, these criteria might also start to apply at Düsseldorf and Gatwick at some point during the impact assessment period. Therefore, in addition to calculating the impacts for Heathrow and Orly, we have estimated the potential impact at Düsseldorf and Gatwick through extrapolation of the impacts at Heathrow and Orly, taking into account the benefits that secondary trading was calculated as generating at each airport.
- 11.120 The estimated results of withdrawal and auctions are shown in Table 11.6 (scenario with lower negative impacts) and Table 11.7 (scenario with higher negative impacts) below. The results vary between the airports:
- At Heathrow, although there is an increase in the number of passengers transported and hence some reduction in fares, the net economic impact is negative in both scenarios. This is because secondary trading already delivers much of the improvement in the economically efficient use of slots than auctions deliver (by 2025, we calculate that the average number of passengers per peak arrival slot would be 213 in any case). Therefore the main economic impact is the negative impact on airline operating costs, due to schedule fragmentation and reduced aircraft/crew utilisation. However, as there would be an increase in the number of passengers transported, and on average those passengers would travel much further, significant additional airline employment is created; this is disproportionately for non-EU airlines and therefore would generally not be EU residents, but employment also increases amongst EU airlines.
 - At Orly, there are significant economic benefits, and these are greater than we estimate are possible due to secondary trading alone. In the high negative impact scenario these are largely offset by the increase in airline operating costs and the impact of slightly reduced useable capacity, but as these problems may be avoidable at Orly, there is no such impact in the low scenario. There are also significant increases in airline and airport employment at Orly, reflecting the fact that the volumes of passengers transported would increase.
 - At Düsseldorf, there are also net economic benefits in the low negative impact scenario, but these are lower than the benefits from secondary trading.
 - At Gatwick, the net economic effect is negative in both scenarios, because (as at Heathrow) secondary trading would already be occurring in the baseline, and this delivers most of the benefits of withdrawal/auctions without the negative impacts.
- 11.121 At all of the airports, there would be an increase in CO₂ emissions generated, because auctions would usually result in larger aircraft and longer flight lengths.
- 11.122 These tables also show the projected results in 2021, after all slots have been withdrawn and auctioned. The impacts are more limited before this, because not all slots would have been withdrawn, and therefore the option does not have the full effect.

TABLE 11.6 QUANTIFIED IMPACTS: OPTION C5 (WITHDRAWAL AND AUCTIONS) – LOW NEGATIVE IMPACTS SCENARIO

		Percentage impact on traffic volumes handled at each airport									
		Impact on number of flights operated (%)					Impact on number of passengers (%)				
		2012	2017	2021	2025	Average 2012-2025	2012	2017	2021	2025	Average 2012-2025
Dusseldorf	DUS	-0.0%	-0.3%	-0.5%	-0.5%	-0.3%	1.5%	7.6%	12.4%	16.0%	9.6%
London Gatwick	LGW	-0.0%	-0.3%	-0.5%	-0.5%	-0.3%	-0.1%	1.8%	3.9%	3.5%	2.3%
London Heathrow	LHR	-0.0%	-0.3%	-0.5%	-0.5%	-0.3%	-0.1%	1.8%	3.9%	3.5%	2.3%
Madrid	MAD	-	-	-	-	-	-	-	-	-	-
Paris Orly	ORY	0.0%	-0.0%	-0.0%	-0.0%	-0.0%	1.5%	8.0%	13.0%	16.6%	9.9%
Vienna	VE	-	-	-	-	-	-	-	-	-	-

		Economic impacts											
		Airline operating costs (€ 000s)			Other direct costs (€ 000s)								
		2012	2017	2021	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2021	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	- 5,366	- 22,614	- 36,226	- 38,141	- 25,308	- 246,702	- 3,693	- 1,776	- 1,713	- 1,713	- 1,890	- 20,200
London Gatwick	LGW	- 8,480	- 33,811	- 51,177	- 53,177	- 37,029	- 360,967	- 3,693	- 1,776	- 1,713	- 1,713	- 1,890	- 20,200
London Heathrow	LHR	- 17,301	- 65,502	- 99,811	- 104,341	- 72,643	- 708,130	- 4,756	- 2,200	- 2,200	- 2,200	- 2,382	- 25,435
Madrid	MAD	-	-	-	-	-	-	-	-	-	-	-	-
Paris Orly	ORY	-	-	-	-	-	-	- 3,693	- 1,776	- 1,713	- 1,713	- 1,890	- 20,200
Vienna	VE	-	-	-	-	-	-	-	-	-	-	-	-

		Economic benefits (€ 000s)						Net economic benefits (€ 000s)					
		2012	2017	2021	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2021	2025	Average 2012-2025	NPV 2012-2025
		Dusseldorf	DUS	5,340	28,465	46,798	76,954	37,620	357,723	- 3,719	4,075	8,860	37,099
London Gatwick	LGW	- 244	4,295	20,455	21,791	11,773	108,896	- 12,417	- 31,292	- 32,435	- 33,099	- 27,147	- 272,271
London Heathrow	LHR	- 1,055	30,541	72,194	69,536	41,350	386,144	- 23,113	- 37,160	- 29,816	- 37,005	- 33,675	- 347,420
Madrid	MAD	-	-	-	-	-	-	-	-	-	-	-	-
Paris Orly	ORY	9,254	52,091	91,279	125,150	66,934	636,874	5,561	50,316	89,566	123,436	65,044	616,674
Vienna	VE	-	-	-	-	-	-	-	-	-	-	-	-

		Social impacts									
		Airport employment (FTEs)			Airline and handling agent employment (FTEs)						
		2012	2017	2021	2025	Average 2012-2025	2012	2017	2021	2025	Average 2012-2025
Dusseldorf	DUS	162	864	1,420	2,335	1,142	398	1,709	2,661	4,820	2,279
London Gatwick	LGW	- 7	130	621	661	357	202	186	1,807	1,936	1,154
London Heathrow	LHR	- 32	927	2,191	2,110	1,255	2,134	9,061	17,775	16,680	11,265
Madrid	MAD	-	-	-	-	-	-	-	-	-	-
Paris Orly	ORY	281	1,581	2,770	3,798	2,031	992	3,771	5,846	7,540	4,465
Vienna	VE	-	-	-	-	-	-	-	-	-	-

		Other quantifiable impacts									
		Impact on air fares (%)			Impact on CO2 emissions (000s tonnes of CO2)						
		2012	2017	2021	2025	Average 2012-2025	2012	2017	2021	2025	Average 2012-2025
Dusseldorf	DUS	-1.4%	-6.9%	-11.3%	-14.6%	-8.7%	62	244	362	627	312
London Gatwick	LGW	0.1%	-1.6%	-3.6%	-3.2%	-2.1%	32	25	263	271	169
London Heathrow	LHR	0.1%	-1.6%	-3.6%	-3.2%	-2.0%	384	1,525	2,855	2,574	1,827
Madrid	MAD	-	-	-	-	-	-	-	-	-	-
Paris Orly	ORY	-1.4%	-7.2%	-11.8%	-15.1%	-8.7%	163	554	803	980	624
Vienna	VE	-	-	-	-	-	-	-	-	-	-

TABLE 11.7 QUANTIFIED IMPACTS: OPTION C5 (WITHDRAWAL AND AUCTIONS) – HIGH NEGATIVE IMPACTS SCENARIO

Percentage impact on traffic volumes handled at each airport												
		Impact on number of flights operated (%)					Impact on number of passengers (%)					
		2012	2017	2021	2025	Average 2012-2025	2012	2017	2021	2025	Average 2012-2025	
Dusseldorf	DUS	-0.2%	-1.2%	-2.0%	-2.0%	-1.4%	1.3%	6.6%	10.7%	14.3%	8.4%	
London Gatwick	LGW	-0.2%	-1.2%	-2.0%	-2.0%	-1.4%	-0.2%	1.0%	2.6%	2.2%	1.4%	
London Heathrow	LHR	-0.2%	-1.2%	-2.0%	-2.0%	-1.4%	-0.2%	1.0%	2.6%	2.2%	1.4%	
Madrid	MAD	-	-	-	-	-	-	-	-	-	-	
Paris Orly	ORY	-0.0%	-0.3%	-0.5%	-0.5%	-0.3%	1.5%	7.6%	12.4%	16.0%	9.5%	
Vienna	VIE	-	-	-	-	-	-	-	-	-	-	

Economic impacts													
		Airline operating costs (€ 000s)					Other direct costs (€ 000s)						
		2012	2017	2021	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2021	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	- 15,168	- 63,952	- 102,522	- 107,942	- 71,599	- 697,919	- 3,693	- 1,775	- 1,713	- 1,713	- 1,936	- 20,811
London Gatwick	LGW	- 23,973	- 95,616	- 144,836	- 150,494	- 104,762	- 1,021,176	- 3,693	- 1,775	- 1,713	- 1,713	- 1,936	- 20,811
London Heathrow	LHR	- 48,908	- 185,238	- 282,474	- 295,292	- 205,517	- 2,003,299	- 4,756	- 2,200	- 2,200	- 2,200	- 2,382	- 25,435
Madrid	MAD	-	-	-	-	-	-	-	-	-	-	-	-
Paris Orly	ORY	- 15,329	- 62,125	- 99,520	- 110,038	- 71,818	- 695,442	- 3,693	- 1,775	- 1,713	- 1,713	- 1,936	- 20,811
Vienna	VIE	-	-	-	-	-	-	-	-	-	-	-	-

		Economic benefits (€ 000s)					Net economic benefits (€ 000s)						
		2012	2017	2021	2025	Average 2012-2025	NPV 2012-2025	2012	2017	2021	2025	Average 2012-2025	NPV 2012-2025
Dusseldorf	DUS	5,141	27,276	44,820	74,310	36,141	343,562	- 13,720	- 38,451	- 59,415	- 35,346	- 37,394	- 375,168
London Gatwick	LGW	- 763	2,343	13,538	13,594	7,073	64,194	- 28,429	- 95,049	- 133,011	- 138,613	- 99,625	- 977,794
London Heathrow	LHR	- 3,308	16,661	47,783	43,379	24,843	227,631	- 56,973	- 170,777	- 236,891	- 254,113	- 183,056	- 1,801,102
Madrid	MAD	-	-	-	-	-	-	-	-	-	-	-	-
Paris Orly	ORY	8,909	49,915	87,420	120,849	64,302	611,661	- 10,112	- 13,986	- 13,814	9,098	- 9,452	- 104,592
Vienna	VIE	-	-	-	-	-	-	-	-	-	-	-	-

Social impacts												
		Airport employment (FTEs)					Airline and handling agent employment (FTEs)					
		2012	2017	2021	2025	Average 2012-2025	2012	2017	2021	2025	Average 2012-2025	
Dusseldorf	DUS	156	828	1,360	2,255	1,097	392	1,676	2,603	4,728	2,234	
London Gatwick	LGW	23	71	411	413	215	180	162	1,590	1,647	1,003	
London Heathrow	LHR	100	506	1,450	1,316	754	1,910	7,865	15,647	14,187	9,792	
Madrid	MAD	-	-	-	-	-	-	-	-	-	-	
Paris Orly	ORY	270	1,515	2,653	3,668	1,951	979	3,698	5,718	7,397	4,377	
Vienna	VIE	-	-	-	-	-	-	-	-	-	-	

Other quantifiable impacts												
		Impact on air fares (%)					Impact on CO2 emissions (000s tonnes of CO2)					
		2012	2017	2021	2025	Average 2012-2025	2012	2017	2021	2025	Average 2012-2025	
Dusseldorf	DUS	-1.2%	-6.0%	-9.8%	-13.0%	-7.7%	61	238	353	614	306	
London Gatwick	LGW	0.2%	-0.9%	-2.4%	-2.0%	-1.3%	29	22	232	230	147	
London Heathrow	LHR	0.2%	-0.9%	-2.4%	-2.0%	-1.2%	345	1,324	2,512	2,189	1,589	
Madrid	MAD	-	-	-	-	-	-	-	-	-	-	
Paris Orly	ORY	-1.3%	-6.9%	-11.3%	-14.6%	-8.4%	160	542	784	959	611	
Vienna	VIE	-	-	-	-	-	-	-	-	-	-	

11.123 The qualitative assessment of other impacts is shown below.

TABLE 11.8 OTHER IMPACTS: OPTION C5 (WITHDRAWAL AND AUCTIONS)

Impact category	Impact
Noise	Slight increase in noise around major airports, as a result of use of larger aircraft
Frequencies and destinations served	Reduction in short distance and regional destinations served and frequencies, as regional airlines would not be able to pay as much for slots as operators of more profitable longer-distance services. There may be an increase in frequencies on long haul routes. Overall there may be a slight reduction in frequencies if the useable capacity of major airports is reduced.
Punctuality and reliability	Little or no impact. There could be a slight improvement in reliability as airlines that purchase slots may be less likely to cancel flights.

11.124 Table 11.9 shows estimated impacts on market share at the two airports in 2021, when all slots have been withdrawn and auctioned, relative to the baseline scenario and option C2.1 (secondary trading). The baseline scenario includes secondary trading at Heathrow but not at Orly; the small difference in the market shares at Heathrow between the baseline and option C2.1 reflects the small increase in the number of trades projected to occur if trading was explicitly permitted.

11.125 At Heathrow, the main changes relative to the baseline scenario are that the main

incumbent carrier (British Airways) and the non-EU long haul carriers would gain a slightly higher market share. The domestic and short haul services operated by BMI are assumed to be withdrawn altogether by 2021, as it would not be worthwhile purchasing slots for these; in the baseline scenario it is assumed that these services are significantly reduced, particularly during peak hours, but a few are retained. At Orly, the impacts are similar to those from secondary trading, but stronger: low cost carriers would purchase slots (as at Gatwick) and slots would generally not be purchased for operations with smaller regional aircraft, including by the main based carrier (Air France and its subsidiaries).

TABLE 11.9 IMPACTS ON AIRLINE SHARE OF SLOTS IN 2021: OPTION C5 (WITHDRAWAL AND AUCTIONS)

		London Heathrow				
		Market shares in 2021			Impact of C5 relative to	
		Baseline scenario	C2.1: Secondary trading	C5: Withdrawal and auctions	Baseline	C2.1: Secondary trading
Main based network carrier (British Airways)	Regional	-	-	-	-	-
	Short haul	28.7%	28.8%	30.8%	2.1%	2.0%
	Long haul	13.8%	13.8%	14.5%	0.7%	0.7%
Other based network carriers (BMI, Virgin)	Regional	0.3%	0.3%	-	-0.3%	-0.3%
	Short haul	3.6%	3.5%	-	-3.6%	-3.5%
	Long haul	6.7%	6.7%	7.6%	0.9%	0.8%
Non-based network carriers	Regional	0.1%	0.1%	-	-0.1%	-0.1%
	Short haul	20.5%	20.4%	18.8%	-1.8%	-1.6%
	Long haul	26.3%	26.3%	28.3%	2.1%	2.0%
Low cost carriers		-	-	-	-	-
Charter / leisure carriers		-	-	-	-	-
		Paris Orly				
		Market shares in 2021			Impact of C5 relative to	
		Baseline scenario	C2.1: Secondary trading	C5: Withdrawal and auctions	Baseline	C2.1: Secondary trading
Main based network carrier (Air France)	Regional	10.2%	6.0%	5.5%	-4.7%	-0.5%
	Short haul	40.0%	34.8%	31.8%	-8.2%	-2.9%
	Long haul	1.5%	1.5%	1.5%	0.0%	0.0%
Other based network carriers (Aigle Azur, Airlineair)	Regional	2.2%	0.6%	0.7%	-1.5%	0.1%
	Short haul	1.7%	1.5%	1.5%	-0.1%	-0.0%
	Long haul	0.0%	-	-	-0.0%	-
Non-based network carriers	Regional	2.4%	2.1%	1.6%	-0.8%	-0.5%
	Short haul	20.9%	20.9%	19.4%	-1.4%	-1.4%
	Long haul	1.6%	1.9%	2.1%	0.5%	0.2%
Low cost carriers		18.2%	28.7%	33.3%	15.1%	4.6%
Charter / leisure carriers		1.4%	1.9%	2.3%	1.0%	0.4%

- 11.126 In the same way as the projected impact of secondary trading for Orly depends on the assumption that Air France would be willing to sell slots to competitors if they placed a higher value on the slots than it did, the projected impact of withdrawal and auctions at Orly depends on the assumption that Air France would not buy slots in order to keep competitors out of the airport.

Withdrawal and auction of a smaller proportion of slots

- 11.127 As an alternative, a smaller proportion of slots could be withdrawn and auctioned; this would be similar to the FAA's proposal for the New York airports where 10% of slots

were to be auctioned over 5 years (2% per year). In this scenario, negative impacts would be reduced significantly – as it would be easier for carriers to undertake the number of secondary trades required to address any deficiencies in the initial auction allocation. In addition, the marginal gains from each transaction might be higher, as there would be an opportunity for the new entrants who placed the highest value on slots to acquire them – although the total gains would be lower.

- 11.128 However, withdrawal of a smaller proportion of slots would create some difficulties. In particular, where carriers had less than 10 daily slot pairs at an airport, it would not be possible to withdraw 10% of slots without withdrawing slots on certain days only, thereby fragmenting the schedule. The FAA proposed to address this problem at the New York airports by only withdrawing slots from carriers with larger slot holdings. Whilst feasible, this could be considered to be unfair to the based hub carriers (who would probably be the only carriers with a significantly higher number of slots) relative to other carriers operating from the airport.

Auctions without secondary trading

- 11.129 In principle, withdrawal and auction of slots could also be introduced without also allowing secondary trading. However, this would not be advisable:

- The negative effects of slot withdrawal would be greater, in terms of fragmentation of the schedule and potentially reduced use of capacity, because airlines would not be able to trade in order to address deficiencies in the initial auction allocation. This is particularly important if the interdependency between airports is considered: for example, if an airline purchased slots through an auction at Heathrow but then failed to gain slots at a corresponding time at the destination airport, it would not be able to trade the Heathrow slots for others which it could use, and therefore it would be impossible to operate the service at all.
- The positive benefits from slot withdrawal, in terms of a more efficient allocation of slots, would be smaller – it is very unlikely that the initial auction would lead to an optimal allocation given the very number of slots to be auctioned and the interdependency between airports.

- 11.130 Since the negative effects would be greater and the positive effects lower than withdrawal/auctions with secondary trading, the net impacts by definition would be worse. Therefore, we do not analyse further the option of withdrawal and auctions without secondary trading.

Conclusions on withdrawal and auctions of slots

- 11.131 There is evidence that the current allocation and utilisation of slots at certain highly congested European airports such as Düsseldorf and Paris Orly, where there is no secondary trading, is economically inefficient, in that significant numbers of slots are used for operations with quite small aircraft. There is no equivalent evidence at the airports at which secondary trading occurs: use of small aircraft is rare at Heathrow and Gatwick. Withdrawal of grandfather rights and auctions of these slots could lead to a more efficient allocation than is possible through an administrative system, and whilst secondary trading in principle should have an equivalent effect, there are a number of reasons why this might not always be the case in practice. If withdrawal and auctions did lead to a more economically efficient allocation of slots, the air

transport service offer could better match consumer demand, leading to increased passenger volumes and lower fares.

- 11.132 However, for the reasons discussed above, withdrawal of slots and auctions may create practical problems which risk being so severe that they would reduce the capacity of the air transport system and reduce the efficiency of airline operations, by increasing the resources (staff and aircraft) that would be needed to deliver a given level of capacity. Since withdrawal of grandfather rights has not been tested at any congested airport, it is not clear to what extent these problems would occur or to what extent airlines would be able to surmount them. Applying withdrawal and auction of slots only at a very small number of the most congested airports (such as Heathrow and Orly only) would limit some of these negative impacts, by avoiding the need to coordinate inter-dependent auctions at multiple airports. Applying withdrawal and auctions to a smaller proportion of slots would also limit the negative impacts, but in this case carriers with smaller slot holdings would have to be exempted from withdrawal to avoid fragmentation of the schedule; this could be considered to unfairly disadvantage the carriers based at the airports concerned.
- 11.133 The economic benefits from withdrawal and auction of slots are likely to be relatively small at airports which already have secondary trading, such as Heathrow: secondary trading delivers significant improvements in the economic efficiency of slot allocation and utilisation and therefore there is limited further benefit that can be obtained. Withdrawal and auctions would have greater benefits at airports which might not otherwise have secondary trading, such as Orly.
- 11.134 At Heathrow, if withdrawal of grandfather rights had any impact on the efficiency of airline operations, the disbenefits arising from this would be likely to offset the benefits from the auctions. In contrast, at Orly, these disbenefits would be significantly less, because almost the only constraint on capacity is the administrative annual slot cap, and therefore airlines should be able to make whatever use is most efficient of the slots that they obtain through the auction, without significant other constraints. Therefore, withdrawal of grandfather rights may generate net economic benefits at Orly. However, these would probably not be significantly greater than the benefits generated by secondary trading alone.
- 11.135 In summary, introduction of secondary trading at all EU airports should generate most of the same benefits, without the corresponding problems. Therefore, we suggest that secondary trading should be introduced at all EU airports; the impact of this could be evaluated after 3-5 years and withdrawal of slots could be considered again if secondary trading had not been as successful as expected.

Option C3/C4: Auctions of pool slots

- 11.136 This section outlines the case for auctions of pool slots. We discuss:
- auctions where new capacity is created; or
 - auctions for all pool slots.

Auctions where new capacity is created

- 11.137 As discussed in section 3 above, significant capacity expansions are planned at several of the sample airports in the period covered by the impact assessment, including Frankfurt, Munich and Vienna, which are either planning or building new runways. Smaller increases in capacity are planned at many of the other airports, albeit with the key exceptions of London Heathrow, Paris Orly and Milan Linate. Auctions could be undertaken where new capacity is created.
- 11.138 An auction would only be beneficial where the increase in capacity was not sufficient to accommodate demand. If there was an auction of new capacity where this was sufficient to accommodate demand, it would have no impact: slots would have no value if the supply exceeded demand. It should be noted that the forthcoming expansion in capacity at Frankfurt airport is so large that capacity should exceed demand at most times, and on the basis of current plans, it is not clear that there will be a case where an auction would be beneficial at any of the sample airports in the period covered by the impact assessment. However, this is uncertain, for two reasons:
- Capacity expansions at some airports could be implemented quite quickly if a political decision was made. For example, the administrative annual slot cap could be raised at Orly, or mixed mode operation introduced at Heathrow. Therefore, the fact that this is not currently planned does not mean it will not happen over a 15 year time period.
 - The number of requests for slots is only a partial guide to the real level of unaccommodated demand. Coordinators report that there can be overbidding for slots, but airlines may also not apply for slots if they know there is little or no chance of receiving them. Therefore, although it appears likely that the planned capacity expansion at Frankfurt will be sufficient to accommodate all demand, at least initially, this conclusion is uncertain.
- 11.139 Most of the arguments set out above against withdrawal of slots and auctions do not apply to auctions for new capacity only:
- Large expansions in capacity at EU airports are rare. Therefore, if auctions applied for new capacity it is very unlikely that there would be a need to coordinate auctions at different airports. This substantially reduces the complexity of the auction process.
 - As the process of planning and developing new capacity takes several years, it should be known at least a year in advance when it should become available. Therefore, auctions could take place well before the regular slot allocation process. This would allow more time for the auctions (which would still be relatively complex compared to auctions in other industries given the heterogeneity of the assets concerned), and for the secondary trading process to address inevitable deficiencies in the initial auction allocation.
 - As there would be no withdrawal of slots, there would be no disruption to airline scheduling and therefore there should be no negative impact on the efficiency of the utilisation of existing airport capacity, or airline fleet and crew utilisation.
 - Auctions should not create financing problems for carriers or hamper capital investment. Indeed, where new airport capacity is planned, the knowledge that a carrier could obtain slots through the auction (if its valuation was high enough) should provide it with more certainty than the administrative allocation process,

which as discussed in section 5 above can produce perverse results when a large amount of new capacity is created.

- There is no perverse incentive created for either the government or the airport operator to restrict capacity: indeed, depending on who received the revenue from the auction and (in the case of the airport) any interaction with the airport charging scheme, their incentive to expand capacity might be enhanced.
- There should be no risks of legal challenge or retaliation against EU airlines at non-EU airports, as these risks are generated primarily by the withdrawal of historic preference, rather than the auctions.

11.140 Whilst some other issues would remain, these are less significant than in the scenario that slots are withdrawn, and it may be possible to address them:

- There would still be a risk that airlines might win slots through the auction and then not be able to obtain slots at the destination airport through the administrative allocation. However, this would be much less likely as airlines would generally have certainty about their slot holdings at the destination airport, as there would be no withdrawal of slots. In addition, as the auction could take place well before the regular administrative scheduling and slot allocation process, there would be more time available to address such issues through secondary trading.
- Some airlines might face difficulties raising finance to purchase slots. However, this risk would be much reduced as carriers' existing slot portfolio would not be threatened. Airlines that still faced financing difficulties, despite this, would be likely to be weaker carriers, and therefore their inability to participate in the auction might increase rather than reduce the efficiency of the allocation.

11.141 In addition, the benefits of auctions for new capacity may be greater, albeit in the relatively small number of cases in which these auctions would take place. If there was an administrative allocation, 50% of slots would have to be allocated to new entrants, but Section 5 above identified that the new entrant rule does not necessarily lead to more efficient capacity utilisation or more effective competition. This would be a particularly problem in the event of a large amount of new capacity being made available at a congested airport as the volume of slots allocated through the new entrant rule would be much greater. Given the relatively low volumes of secondary trades it would take a long time for secondary trading to address the deficiencies in the administrative allocation, even if this was introduced at all EU airports as we propose.

Auctions for pool slots only

11.142 At the most congested airports there are relatively few available slots to be distributed through the pool. This is particularly the case at airports at which secondary trading takes place: carriers would generally seek to dispose of slots that they do not want through the secondary market, and hence obtain revenue from them, rather than return them to the pool. Secondary trading is likely to lead to higher turnover of slots than an auction of pool slots would, as it provides airlines with a financial incentive to dispose of slots that they do not plan to use; auction of pool slots does not.

11.143 A further issue is that auctions of pool slots might be difficult to organise within the current slot allocation and scheduling process. A relative advantage of auctions for new capacity or withdrawn slots is that it could be known well in advance what slots would be available. However, carriers do not have to return slots to which they have

historic preference until the slot return date, approximately two months before the start of the season, and in practice may do so at any time up to this point when they decide not to operate a flight.

- 11.144 Auction of all pool slots would have little impact on capacity distribution at the most congested airports, particularly in the scenario that secondary trading was introduced, and might be impractical to implement within the slot allocation process; therefore we do not consider this further.
- 11.145 However, there would be a stronger case for auction of pool slots in the (rare) circumstances where a large number of slots become available at a very congested airport, for example at Paris Orly after the bankruptcy of Air Lib. This would happen rarely and generally only at one airport at a time, and therefore it should not be impossible to organise within the current slot allocation process – in the same way as the proposed auctions for substantial new capacity discussed above. However, the time available to organise the auction would be much lower (as airline withdrawal and insolvency is not planned in advance) which could create some practical difficulties.

Estimate of impacts

- 11.146 As discussed above, an auction of new capacity is only likely to be useful in quite rare circumstances, where capacity is expanded at an airport at which demand exceeds capacity, but the capacity expansion is not significant enough to accommodate all demand.
- 11.147 In order to test the impact that an auction might have, we have evaluated what the results of an auction might be in the case that mixed mode operation was introduced at Heathrow (the same scenario that we use to test option C7.1, revision to the new entrant rule), compared to an administrative allocation. As for option C7.1, this is assumed to take effect in 2017 and deliver a capacity increase of 10%.
- 11.148 For the scenario in which slots are allocated by an auction, we assume that slots are allocated to the types of route, airlines and aircraft type which have obtained slots through secondary trading. The rationale for this assumption is that the types of airlines who have purchased slots on the secondary market would be those who would be most likely to purchase slots in any auction. The result of this is that the allocation of slots would be weighted towards long haul services operated by non-EU carriers.
- 11.149 For the scenario in which the new capacity is allocated using the administrative mechanism, it is less clear which carriers would apply for and be allocated slots. Current unmet requests for slots do not provide a sufficient guide to which carriers would apply for slots if a significant number of new slots became available – as most carriers know that they have almost no chance of being given slots through the administrative process. However, by definition, an administrative allocation cannot be more efficient than an auction for the primary allocation – the coordinator cannot perfectly estimate which airlines place the highest values on slots (not least as the coordinator has to follow other rules) and therefore cannot entirely replicate what an auction would achieve. For the administrative allocation, we use the same assumptions as for option C7.1 discussed above – slots are allocated in proportion to unaccommodated demand for slots, but weighted to reflect the impact of the new entrant

rule.

- 11.150 Over time, secondary trading would reduce the difference between the administrative and auction-based allocation, as airlines who were allocated slots through the administrative process would sell slots to airlines that placed a higher value on them, and therefore might have bought them in an auction. Secondary trading should occur at a faster rate than normal, due to the high number of newly allocated slots, and the allocation of slots to airlines who place lower values on them therefore might be more willing to sell. However, there would be no secondary trading of new entrant slots within the first two years, as this is not permitted. We have assumed that secondary trading would take place over the subsequent 5 years and, after 7 years, sufficient slots would have been traded to eliminate the difference between the administrative allocation and the auction.
- 11.151 The auction would incur costs both for the authority that organised it, and for the airlines that participated. However, these would be lower than for option C5, as there would only be one auction and, as slots would not be withdrawn, there would be no need to re-plan existing schedules. For modelling purposes we have assumed that the cost of the auction would be equivalent to that which was expected to be incurred at New York JFK airport, if the FAA's plan to withdraw slots had gone ahead – as the number of slots that would have been auctioned would be similar. In addition, because of the need for secondary trading to address the inefficiencies in an administrative allocation, there would also be costs for airlines in the scenario that the initial allocation was not through an auction.
- 11.152 The results of the auctions of the new capacity are shown below, compared to the result of an administrative allocation with both the current and proposed revised new entrant rule. The auction delivers a 10.6% increase in passenger numbers in 2017, compared to 8.4% for an administrative allocation with the existing new entrant rule, and 8.7% for an administrative allocation if the new entrant rule is revised. This means that over 1.6 million additional passengers per year can travel from the airport, and on average these passengers travel longer distances. As a result 25% more economic benefits, but also over 50% more CO2 emissions, are generated, compared to the economic benefits and CO2 emissions generated by an administrative allocation of the new capacity. There is also more employment generated and although most of the additional employment, relative to the administrative allocation, is with non-EU airlines (as discussed below, these obtain a higher proportion of slots from an auction), there is still a net increase in employment with EU airlines. Whilst the economic benefits and other impacts from the use of an auction to allocate new capacity are small in comparison to the economic benefits and other impacts from the decision to expand capacity, these are nonetheless very significant: the airport-specific benefits are larger than the airport-specific benefits of any other option, apart from secondary trading.

TABLE 11.10 QUANTIFIED IMPACTS: OPTION C3/4 (AUCTIONS FOR NEW CAPACITY) COMPARED TO ADMINISTRATIVE ALLOCATION

Percentage impact on traffic volumes handled at each airport									
	Impact on number of flights operated (%)				Impact on number of passengers (%)				
	2012	2017	2025	Average 2017-2025	2012	2017	2025	Average 2017-2025	
Auction	-	10.0%	10.0%	10.0%	-	10.6%	10.3%	10.4%	
Administrative (existing new entrant rule)	-	9.8%	10.0%	10.0%	-	8.4%	10.3%	8.8%	
Administrative (revised new entrant rule)	-	9.9%	10.0%	10.0%	-	8.7%	10.3%	9.0%	
Auction vs. existing administrative	-	0.2%	-0.0%	0.0%	-	2.2%	-	1.6%	
Auction vs. revised administrative	-	0.1%	-	0.0%	-	1.9%	-	1.4%	

Economic impacts										
	Airline operating costs (€ 000s)					Other direct costs (€ 000s)				
	2012	2017	2025	Average 2017-2025	NPV 2017-2025	2012	2017	2025	Average 2017-2025	NPV 2017-2025
Auction	-	-	-	-	-	-	1,278	-	142	1,001
Administrative (existing new entrant rule)	-	-	-	-	-	-	-	100	77	446
Administrative (revised new entrant rule)	-	-	-	-	-	-	-	50	39	223
Auction vs. existing administrative	-	-	-	-	-	-	1,278	100	65	554
Auction vs. revised administrative	-	-	-	-	-	-	1,278	50	103	778

	Economic benefits (€ 000s)					Net economic benefits (€ 000s)				
	2012	2017	2025	Average 2017-2025	NPV 2017-2025	2012	2017	2025	Average 2017-2025	NPV 2017-2025
Auction	-	182,519	201,148	191,565	1,148,813	-	181,241	201,148	191,423	1,147,813
Administrative (existing new entrant rule)	-	143,975	201,148	161,537	961,198	-	143,975	201,049	161,460	960,752
Administrative (revised new entrant rule)	-	150,129	201,148	165,141	984,082	-	150,129	201,098	165,102	983,859
Auction vs. existing administrative	-	38,543	-	30,028	187,615	-	37,265	100	29,963	187,061
Auction vs. revised administrative	-	32,390	-	26,424	164,731	-	31,112	50	26,321	163,954

Social impacts									
	Airport employment (FTEs)				Airline and handling agent employment (FTEs)				
	2012	2017	2025	Average 2017-2025	2012	2017	2025	Average 2017-2025	
Auction	-	5,539	6,104	5,814	-	22,828	26,807	24,725	
Administrative (existing new entrant rule)	-	4,369	6,104	4,902	-	14,854	26,807	18,963	
Administrative (revised new entrant rule)	-	4,556	6,104	5,012	-	16,232	26,807	19,813	
Auction vs. existing administrative	-	1,170	-	911	-	7,974	-	5,762	
Auction vs. revised administrative	-	983	-	802	-	6,596	-	4,912	

Other quantifiable impacts									
	Impact on air fares (%)				Impact on CO2 emissions (000s tonnes of CO2)				
	2012	2017	2025	Average 2017-2025	2012	2017	2025	Average 2017-2025	
Auction	-	-9.6%	-9.3%	-9.5%	-	3,780	4,140	3,951	
Administrative (existing new entrant rule)	-	-7.6%	-9.3%	-8.0%	-	2,475	4,140	3,032	
Administrative (revised new entrant rule)	-	-7.9%	-9.3%	-8.1%	-	2,705	4,140	3,171	
Auction vs. existing administrative	-	-2.0%	-	-1.5%	-	1,305	-	919	
Auction vs. revised administrative	-	-1.7%	-	-1.3%	-	1,075	-	780	

11.153 The qualitative assessment of other impacts is shown below.

TABLE 11.11 OTHER IMPACTS: OPTION C3/4 (AUCTIONS FOR NEW CAPACITY)

Impact category	Impact
Noise	Slight increase in noise around major airports, as a result of use of larger aircraft
Frequencies and destinations served	No impact on number of flights. Compared to an administrative allocation of the new capacity, there would be fewer additional short distance and regional destinations frequencies, but an increase in frequencies on long haul routes.
Punctuality and reliability	Little or no impact. There could be a slight improvement in reliability as airlines that purchase slots may be less likely to cancel flights.

11.154 The impact on the share of slots allocated to different carriers and flight types is shown below. The auction results in slightly more slots being obtained by the main based network carrier (British Airways), other based network carriers (primarily Virgin Atlantic) for long haul services; and the non-based long haul carriers (i.e. non-EU carriers), as these place the highest valuation on slots. Although fewer slots are used for short haul services in the case of an auction than with the administrative allocation, short haul still accounts for over half of the new slots. This is largely because, partly as a result of secondary trading, there is little unaccommodated demand for long haul slots in the off-peak in the baseline scenario, and therefore most new off-peak slots are used for short haul regardless of how they are allocated. As

with option C5, we assume BMI would not buy any slots through an auction for short haul services, and no slots would be bought in the auction for operations with regional aircraft. We also estimate that a few off-peak slots would be obtained by low cost carriers but these are generally long haul low cost carriers (such as Air Transat of Canada), rather than European low cost carriers.

TABLE 11.12 SHARE OF NEW SLOTS IN 2017: OPTION C3/C4

		Auction	Administrative mechanism		Auction compared to	
			Current new entrant rule	Revised new entrant rule	Current new entrant rule	Revised new entrant rule
Main based network carrier (British Airways)	Regional	-	-	-	-	-
	Short haul	17.6%	14.3%	15.3%	3.3%	2.3%
	Long haul	12.3%	10.7%	11.5%	1.5%	0.8%
Other based network carriers (BMI, Virgin)	Regional	-	2.4%	0.9%	-2.4%	-0.9%
	Short haul	-	3.2%	3.2%	-3.2%	-3.2%
	Long haul	6.9%	1.3%	5.1%	5.5%	1.7%
Non-based network carriers	Regional	-	13.9%	13.1%	-13.9%	-13.1%
	Short haul	38.9%	37.9%	35.7%	0.9%	3.2%
	Long haul	19.7%	12.6%	11.8%	7.1%	7.9%
Low cost carriers		4.7%	3.6%	3.3%	1.1%	1.4%
Charter / leisure carriers		-	-	-	-	-

Conclusions

- 11.155 In the relatively rare circumstances where capacity was significantly expanded at a heavily constrained airport, an administrative mechanism would be unlikely to generate an economically efficient allocation of the new slots. Revision of the new entrant rule would improve the administrative allocation that was possible, but an auction of the new slots would be a much more efficient means of allocating the new capacity than any administrative mechanism. The difference between an administrative allocation and an auction would be reduced over time if secondary trading was permitted, but this would take several years given the relatively low number of trades.
- 11.156 Therefore we recommend that if the Regulation was revised, it should allow for States to undertake auctions of slots where significant new capacity is created at an airport. The decision to undertake an auction should be made by the State concerned, as an auction would not be beneficial at every airport where capacity was expanded; and the design of the auction should also be decided by the State concerned, as (as discussed below) the appropriate design would vary depending on the circumstances. The revised Regulation should state that where auctions were undertaken the new entrant rule would not apply.
- 11.157 We also recommend that the Regulation allow for auctions for pool slots, in the rare cases where a significant volume of these slots becomes available, for example after the insolvency of an incumbent carrier. It would be up to the State proposing the auction to demonstrate that it was possible to do this without disrupting the administrative allocation process in place at other airports.

Auction design

- 11.158 This section sets out issues relating to auction design, which would have to be addressed if auctions were introduced, whether this was for new capacity or pool slots only, or accompanied by withdrawal of slots. The following issues are covered:

- whether the auction design should apply EU-wide or airport-specific; and
- the type of auction to be used.

11.159 We also summarise specific proposals for types of auctions and some relevant experience from other sectors.

EU-wide or airport-specific system

11.160 If auctions were to take place at all or most coordinated airports, there would be a strong argument for a consistent auction design applying across all airports, to limit complexity and ensure consistency. However, as discussed above:

- If withdrawal of grandfather rights was implemented, this should be at a limited number of airports, partly because there would be no point doing this where slots are available through the pool, and also to limit some of the difficulties that withdrawal would generate.
- If the provision of new capacity at an airport was expected to lead to capacity exceeding demand, there would be no purpose in undertaking an auction of the new capacity, as carriers would have no reason to participate in it.

11.161 Therefore, whether there is withdrawal of slots, or auctions apply for new capacity only, auctions would only take place at a small sub-set of coordinated airports. Given this, Member States should be able to adapt the auction mechanism to the particular circumstances. In the event of a large capacity expansion (for example, construction of a new runway at Frankfurt), the appropriate auction mechanism would differ significantly from the design that might be appropriate with a relatively small capacity expansion (such as implementation of mixed mode operations at Heathrow).

11.162 As a safeguard, the proposed design of the auction mechanism could be subject to approval by the Commission. The purpose of this would be to ensure that the auction design was

- consistent with the Regulation;
- would not cause disruption to the slot allocation system used at other coordinated airports - for example through use of a timescale that was inconsistent with the general slot allocation process; or
- infringe EU law in other ways, for example, by creating unfair advantages for specific air carriers - for example, an auction where carriers had to bid for individual slots might be considered to give an unfair advantage to the dominant incumbent, because other carriers would only want to obtain slots if they could be sure they would gain enough slots to operate a commercially attractive air service..

Type of auction to be used

11.163 A choice would need to be made between:

- Separate, sequential auctions of each slot (or daily slot): Each slot would be allocated to the highest bidder for that specific slot.
- A single round auction for multiple slots, with bids being for combinations of slots (a 'combinatorial' auction): Airlines would submit their bids for different combinations of slots, and the auction manager would select the combination of

bids which provided the highest net payment.

- A multiple round ascending auction or a ‘clock’ auction, with gradually increasing prices: In each round the auction manager would specify a price, and each airline would specify how many slots it was willing to acquire at that price.

- 11.164 Sequential auctions are not appropriate for slots, as airlines’ demand for slots is interdependent. For example, if an airline was seeking slots to operate a Frankfurt-Heathrow service, it would need to offer flights all day to be competitive, so if it could not obtain any morning slots, evening slots would have no value to it. Therefore, the design needs to take into account that airlines need, and hence would need to be able to bid for, combinations of slots.
- 11.165 The key advantage of an ascending or clock auction over a single-round auction is that it allows airlines to discover the levels of market demand for slots at different slot prices and respond accordingly, adjusting their valuations if necessary. It thereby reduces the risk that the bids submitted fail to produce an efficient outcome, for example because airlines mistakenly bid too low, or win with a price that is much higher than they would have needed to pay, given overall market demand.
- 11.166 A clock auction may also be simpler to administer if there are a large number of slots available, as airlines are likely to have different demand for slots at different price levels. For example, an airline may be willing to acquire 5 slots if the price is €1,000, but only 4 slots if the price is €2,000, etc, and these bids may depend on the outcome of bids in other hours. This interdependency cannot easily be reflected in a simple single-round auction, unless airlines are permitted to submit multiple combination bids. Clock auctions of airport slots were proposed in a study for the US government by the National Centre of Excellence for Aviation Operations Research (NEXTOR)⁸⁶.
- 11.167 The main disadvantage of an ascending auction relative to a single round auction is that it is more complex, time-consuming and hence expensive for both the organiser and the participants. In addition, a single-round auction is more likely to promote new entry because it gives entrants a better chance of winning against strong incumbents; in an ascending auction, a weaker bidder knows that a strong incumbent can always exceed their bid in a subsequent round. Depending on the design, an ascending auction may also facilitate collusion.⁸⁷
- 11.168 The FAA proposal for auctions at the New York airports was for a single-round combinatorial auction. The main advantage cited was that it was simpler and cheaper to organise and participate in. However this reflected the fact that only 2% of slots would have been auctioned each year, equivalent to 10 rotations per day at the airports concerned. A single round auction is more feasible when a relatively small number of slots is being auctioned. It would not be feasible if a large number of slots were auctioned, for example, if a new runway was opened at a congested airport, or it was decided to withdraw 10% of slots from airlines each year at a busy airport such as Frankfurt or Heathrow. In cases such as these, a clock auction would probably be

⁸⁶ NEXTOR (2005): NEXTOR congestion management project, final report

⁸⁷ Klemperer (2002): The economic theory of auctions

more appropriate.

- 11.169 The FAA also proposed to use a sealed-bid, second-price approach (a Vickrey auction). The advantage of a Vickrey auction is that it encourages participants to bid their true valuation for the asset: in a conventional auction, bidders have an incentive not to reveal their true valuation, because this may result in them paying a higher price than they would otherwise need to do. However, whilst there are variants of this approach that can be used for auctions where there are multiple equivalent assets such as airport slots (where these are equivalent), these do not necessarily force bidders to reveal their true valuations.

Hybrid auctions, and auctions of notional slots (option C3)

- 11.170 A 2006 study on behalf of the UK government⁸⁸ proposed a hybrid auction process, with a first round auction of scheduling rights (the right to operate within a one hour period) and then slots allocated between the airlines that had obtained scheduling rights through the standard administrative procedure. This was designed and intended for capacity created by a 3rd runway at Heathrow, not for slots withdrawn from airlines. The study suggested an ascending clock auction would have been the most efficient auction mechanism for the initial scheduling rights, although this was based on the assumption that a large number of slots would have been auctioned at one time - it is not necessarily appropriate if a small number of slots were to be made available.
- 11.171 A fairly similar approach has been proposed in one academic study which proposed an auction of 'notional slots', in three broad scheduling periods per day, which could be traded between airlines and then converted into operational slots by the coordinator on the basis of administrative criteria. This study argued that a key benefit of having relatively few periods each day was that there would then be many more opportunity for trading; as a result of the number of opportunities for trading, the study argued it might be possible to establish features reminiscent of other markets for constrained resources, such as futures markets.⁸⁹
- 11.172 In interviews many airlines argued that this hybrid approach would be even more disruptive to their operations than a standard auction, because of additional complexity, and because slots are not heterogeneous. An airline that needs to provide a connection into a 'bank' of flights at a hub might place a high value on a slot at 0900 but much lower value on a slot at 0959.
- 11.173 However, limited evidence on slot prices indicates that in most cases valuations do not vary substantially over short time periods such as one hour (with some exceptions – see below), and therefore it should be possible to resolve issues of different airlines demanding slots at different time within one hour through secondary trading. This will clearly be easier if, as assumed in the Dotecon study, the auction only took place at one airport at once, and took place several months before the IATA scheduling

⁸⁸ Dotecon (2006): Alternative allocation mechanisms for slots created by new airport capacity

⁸⁹ Martín Bintaned Ara (2009): Viabilidad de un mercado de futuros y opciones sobre franjas horarias aeroportuarias en la Unión Europea

conference, to allow opportunities for trading. However, there is significant variation on the values and potential uses of slots over broader time periods, and therefore in our view the proposal to auction what would be (in effect) scheduling rights for three broad time periods within a day is not realistic.

11.174 Whatever the length of the period over which scheduling rights were to be auctioned, there would still need to be some mechanism to determine the allocation if it was not possible to get agreement on allocation between the different airlines that obtained rights to schedule in the same period. Although in most cases limited variation in slot values within an hour should mean this is not a serious problem, it could be an issue at Heathrow in a few peak hours. For example an arrival slot at 0600 could be used for a competitive overnight flight from East Asian cities such as Hong Kong or Singapore, whereas an arrival slot at 0659 would imply an unattractively late departure from the origin airport, which would make the slot less valuable. Therefore, it could not be assumed that airlines with scheduling rights to the 0600-0659 hour would be readily able to agree timings.

11.175 The mechanism to determine timings within the hour could either be:

- a lottery;
- administrative criteria to determine which airline would get priority (such as priority to larger aircraft); or
- some further market mechanism (for example an auction for slots within the hour, with the participants limited to those airlines who already had scheduling rights).

11.176 The latter approach would be most likely to lead to an efficient outcome but would introduce further complexity which might not be realistic in the limited timeframe available. In addition, given the small number of airlines that would have slots within the hour, provided initial property rights were defined (on the basis of a lottery or administrative criteria), it should then be possible to reach an efficient outcome through trading.

11.177 In summary, we believe that the approach described in the Dotecon study is realistic and has the prospect of generating an efficient outcome, albeit for the quite specific and unusual circumstances for which it was proposed, of expansion of capacity at a severely constrained airport such as Heathrow.

Experience from other sectors

11.178 Auctions have been used very successfully to allocate radio spectrum frequencies. For example, the sale of 3G licenses in the UK raised £22.5 billion (at the time, €39 billion). The designers of this auction initially proposed a combination of an ascending auction with a sealed bid auction, referred to as an ‘Anglo-Dutch auction’: the ascending auction would be used to select the top five bidders for the four 3G licenses available, and then there would have been a single price, sealed bid auction to award the four licenses between these five bidders. The main benefit of this approach was to encourage entry. When it eventually became clear that it was possible to award five

licenses instead of four (guaranteeing that there would be new entry, as there were four 2G incumbents), the approach was switched to a simultaneous ascending auction design, without the final single-price round.⁹⁰

- 11.179 Some of the 3G auctions that took place elsewhere were less successful, raising significantly less revenue than expected; this was partly because of a lack of new entry (and hence limited competition for the licenses), and may also have been partly because of collusion between bidders or other anti-competitive behaviour (for example in the Netherlands one bidder withdrew after an incumbent wrote to it threatening to sue for damages if it continued to bid). Many of the auctions including those in Austria, the Netherlands, Switzerland, Greece, and Italy, raised much less than had been expected, partly on the basis of the UK experience. Nonetheless auctions in some other Member States raised significant amounts of revenue: for example, the auction in Denmark raised double the amount that had been expected, and the auction in Germany raised almost as much as the UK auction measured on a per-capita basis.⁹¹
- 11.180 The auctions of radio spectrum licenses provides a useful comparator for slots, and demonstrate that auctions are likely to be a more efficient way of allocating a limited resource than other approaches such as the ‘beauty contests’ used for 2G licenses and also used for 3G licenses in some Member States such as Spain. The success of radio spectrum auctions demonstrates that some of the most common criticisms of auctions (such as that they will discourage investment or lead to higher prices for consumers) are not necessarily valid, although this depends partly on the particular characteristics of the sector. However, these auctions also show the importance of the auction design being adapted to the specific circumstance. The same auction design that was very successful when first used in the UK was then unsuccessful when copied in other countries, and the most successful auction other than that in the UK (that in Denmark) used a very different design.
- 11.181 However, there are important differences between auctions for airport slots and radio spectrum frequencies, which mean that experience from the auctions in radio frequencies are of limited relevance to auctions for slots:
- auctions for radio spectrum frequencies were for a small number of licenses (up to five) whereas a slot auction would (potentially) be for several hundred daily slots;
 - auctions for radio spectrum frequencies were for individual licenses, whereas slot auctions would be for multiple inter-dependent slots; and
 - slot allocations are subject to a large number of other technical constraints including terminal capacity and corresponding allocations at other airports, which do not apply to radio spectrum licenses.
- 11.182 Auctions are also commonly used in some other utility sectors where there are multiple items to be sold, for example, in the spot market for electricity. Auctions are also commonly used for sale of government debt. These have some similarities to potential auctions slots, in that these auctions are for a large number of items.

⁹⁰ Binmore and Klemperer (2002): The biggest auction ever: The sale of the British 3G Telecom licenses

⁹¹ Klemperer (2002): How (Not) to Run Auctions: the European 3G Telecom Auctions

However, none of these markets have the complexities of slot allocation in terms of the heterogeneity of the items and the inter-dependency of results. Again, this means that the experience from these sectors is of limited relevance.

12. CONCLUSIONS AND RECOMMENDATIONS

Introduction

- 12.1 This section sets out the conclusions of the impact assessment and recommendations for changes which should be made to the Regulation, and summarises the results of the quantitative and qualitative impact assessment for each of the options, on the basis of the criteria agreed with the Commission (and shown below). At the end of this section there is a summary of how the proposed actions map against the issues which have been identified with the Regulation.

Summary evaluation of options against criteria

Results of the quantitative assessment

- 12.2 Table 12.1 below summarises the conclusions of the quantitative assessment, estimated across all coordinated EU airports. A number of options would generate net economic benefits and social benefits (through increased employment). However, by far the largest economic benefits are generated by authorisation of secondary trading – even though this already applies at two of the airports at which the most benefits could be generated and therefore these impacts are not included. The estimated net economic benefit from explicit authorisation of secondary trading is €334 million on average per year EU-wide, more than the economic benefits generated by all of the other options put together. Social benefits are also generated in the form of increased employment, although there may be negative social effects in terms of regional accessibility (discussed as part of the qualitative assessment below).
- 12.3 The options which generate economic and social benefits do so by increasing the volumes of air traffic which can be handled, and increasing the proportion of long haul traffic. As a result, these options also increase emissions, and so are negative from an environmental perspective.
- 12.4 The direct implementation costs (including administrative costs) of most of the options are low. The highest direct implementation costs would be generated if the coordinators were required to collect data for level 1 airports in order to support the Network Manager, and if grandfather rights are withdrawn and slots auctioned.
- 12.5 The table summarises the results for all options, whether or not these are recommended; options which are not recommended are shown in italics. It also summarises the estimated total impacts of the implementation of all recommended options. This is close to the sum of the individual recommended options but there are some exceptions to this (primarily, that option B3.2 has relatively limited value if applied in addition to B3.1). Note that the two scenario tests relating to introduction of mixed mode at Heathrow are not included in this total, as it is not clear that this will happen during the period covered by the impact assessment. The table also shows the impacts of the recommended options plus option C5 (withdrawal and auctions at Heathrow and Orly); however, the economic benefits of this combination of options are lower.

TABLE 12.1 QUANTITATIVE ASSESSMENT CONCLUSIONS

Option	Option name	Airport	Pas- sengers (%)	Flights (%)	Pas- sengers (millions)	Airline operating costs (€ millions)	Direct implem- entation costs (€ millions)	Economic benefits (€ millions)	Net economic benefits (€ millions)	Employment (000s FTEs)		Fares (%)	CO2 emissions (000 tonnes)
										Airport	Airline		
B1.1 / B1.2	Organisational separation of coordinator	Total EU-wide	n/a	n/a	n/a	n/a	7.3	n/a	n/a	0.0	0.0	0.0%	0
B1.4	Monitor that coordinator sufficiently funded	Total EU-wide	n/a	n/a	n/a	n/a	0.2	n/a	n/a	0.0	0.0	0.0%	0
B1.5	Amend funding mechanism	Total EU-wide	n/a	n/a	n/a	n/a	0.1	n/a	n/a	0.0	0.0	0.0%	0
B2.2	Coordinator obliged to publish more information online	Total EU-wide	n/a	n/a	n/a	n/a	1.1	n/a	n/a	0.0	0.0	0.0%	0
B3.1	Slot reservation fees	Total EU-wide	0.3%	0.2%	3.7	0.0	4.7	868.7	864.0	2.5	4.4	-0.2%	719
B3.2	Penalties for misuse of slots	Total EU-wide	0.1%	0.1%	1.5	0.0	19.4	352.7	333.3	1.0	1.5	-0.1%	254
B4.1	1% of slots to business aviation	Total EU-wide	-0.3%	0.0%	-3.4	n/a	0.0	n/a	n/a	n/a	n/a	n/a	n/a
B6	Coordinator to collect data for level 1 airports	Total EU-wide	n/a	n/a	n/a	n/a	20.5	n/a	n/a	0.0	0.0	0.0%	0
C2.1	Secondary trading	Total EU-wide	1.2%	0.0%	14.4	0.0	24.7	3,139.7	3,115.1	9.9	34.3	-0.6%	5,140
C2.4	Secondary trading post trade transparency	Total EU-wide	0.0%	0.0%	0.0	0.0	0.7	n/a	n/a	0.0	0.0	0.0%	0
C2.5	Secondary trading pre-trade transparency	Total EU-wide	0.0%	0.0%	0.0	0.0	0.4	n/a	n/a	0.0	0.0	0.0%	0
C3/C4	Auctions for new capacity	Heathrow, with mixed mode	1.6%	0.0%	1.3	0.0	0.6	187.6	187.1	0.9	5.8	-1.5%	919
C5	Withdrawal of grandfather rights and auctions	Heathrow	2.6% - 3.9%	-0.3% - -1.4%	1.1 - 1.8	708.1 – 2,003.3	25.4	227.6 - 386.1	-347.4 - -1,801.1	0.8 - 1.3	9.8 - 11.3	-1.2% - -2.0%	1,827
		Orly	12.4% - 13.0%	-0.3% - 0.0%	2.8 - 2.9	0.0 – 695.4	20.2 - 20.8	611.7 - 636.9	-104.6 - 616.7	2.0	4.4 - 4.5	-8.4% - -8.7%	611 - 624
C7.1	Revise new entrant rule	Total EU-wide	0.0%	0.0%	0.5	0.0	0.0	124.9	124.9	0.4	0.6	0.0%	102
		Heathrow, with mixed mode	0.2%	0.0%	0.2	0.0	0.2	22.9	23.1	0.1	0.9	-0.2%	138
C8.1A	Increase utilisation threshold to 85%	Total EU-wide	0.1%	0.0%	0.8	0.0	0.0	184.7	184.7	0.5	0.9	0.0%	150
C8.1B	Increase utilisation threshold to 90%	Total EU-wide	0.2%	0.1%	2.3	535.8	0.0	536.2	0.4	1.6	2.6	-0.1%	431
C8.2	Extend minimum length of series	Total EU-wide	0.3%	0.2%	3.6	0.0	0.0	876.3	876.3	2.6	4.7	-0.2%	768
	Total all recommended options	Total EU-wide	1.6%	0.2%	23.8	0.0	75.7	5,354.7	5,279.0	16.4	45.6	-0.8%	6,988
	All recommended options plus withdrawal and auctions (C5)	Total EU-wide	1.9% - 2.0%	0.2%	27.3 – 28.7	708.1 – 2,698.7	113.6 – 119.2	5,620.0 – 5,804.3	2,807.6 – 4,976.9	17.3 – 17.9	55.2 – 56.7	-0.8%	8,523 – 8,775

12.6 We summarise below the quantitative impacts of the recommended combination of options, covering the six modelled airports and the extrapolated impacts covering all large EU airports and all coordinated airports. The options which relate to the operation of the coordinators (such as B1.1/B1.2) are not airport specific, and therefore are only included in the total EU-wide impacts, which explains why the implementation costs are much higher.

TABLE 12.2 SUMMARY TOTAL IMPACT OF RECOMMENDED OPTIONS

	Modelled airports	All large EU airports (>20mppa)	All coordinated airports
Passengers (%)	2.8%	2.0%	1.6%
Flights (%)	0.4%	0.5%	0.2%
Passengers (millions)	7.0	15.9	23.8
Airline operating costs (€ million NPV)	0	0	0
Direct implementation costs (€ million NPV)	7	19	76
Economic benefits (€ million NPV)	1,578	3,558	5,355
Net economic benefits (€ million NPV)	1,571	3,539	5,279
Airport employment (000 FTEs)	5	11	16
Airline employment (000 FTEs)	12	31	46
Fares (%)	-2.5%	-1.9%	-0.8%
CO2 emissions (000 tonnes)	1,880	4,753	6,988

Note: Financial values presented as net present value (NPV) of costs/benefits 2012-25. Non-financial values (passengers, emissions etc) presented as annual average values 2012-25.

12.7 The estimated impacts are greater than those predicted to be generated by the EU-US Open Skies agreement. It was expected that this would increase passenger numbers by 9.6 million in 2011, compared to an annual average of 23.2 million for the proposed changes to the slot Regulation; and that the agreement would increase direct employment (with airlines and airports) by 22,000 in 2011, compared to 61,000 for the proposed changes to the slot Regulation. As there is inevitably significant uncertainty in any estimates of this nature, and the estimates are in any case not directly comparable (for example the periods of time covered are different), it could be concluded that the proposed changes to the slot Regulation would generate benefits of a broadly similar scale to the EU-US Open Skies agreement.

Criteria for evaluation of options

12.8 The main criterion for evaluation of policy options is the extent to which the options achieve the agreed policy objectives, defined in Table 12.3 (**effectiveness**). We also assess on the basis of:

- **efficiency** – the extent to which objectives can be achieved for a given level of resources / at least cost (cost-effectiveness); and
- **coherence** – the extent to which options are coherent with the overarching objectives of EU policy, and the extent to which they are likely to limit trade-offs across the economic, social, and environmental domain.

TABLE 12.3 POLICY OBJECTIVES

Category	Objective
Economic	Ensure the competitiveness of operators
	Enhance competition in order to better serve the interests of consumers
Environmental	Minimise CO ₂ emissions and local airport pollution from air transport, both on a per-passenger and per-passenger kilometre basis
Social	Maintain a wide range of direct air services including to regional airports
	Ensure optimal allocation of capacity at each congested airport
	Maximise the use of capacity at each congested airport
General	Ensure neutral and non-discriminatory slot allocation
	Comply with the EU and Member States' international obligations
	Ensure better implementation of the Regulation

Summary evaluation of each option

- 12.9 The table below summarises each option against the evaluation criteria for the study, showing both qualitative and quantitative impacts. For each criteria, and for each option, impacts are categorised as follows:

TABLE 12.4 QUALITATIVE CATEGORISATION OF IMPACTS

Category	Explanation
✓✓✓	Strong positive impact
✓✓	Positive impact
✓	Weak positive impact
✓?	Any impact positive - but possibly no impact
-	No impact
✓*	Positive and negative impacts
*?	Any impact negative - but possibly no impact
*	Weak negative impact
**	Negative impact
***	Strong negative impact

TABLE 12.5 IMPACT ASSESSMENT SUMMARY

Note: Impacts shown in table are annual averages 2012-25 except where stated otherwise

Option	Sub-options	Effectiveness									Efficiency: the extent to which objectives can be achieved for a given level of resources / at least cost (cost-effectiveness)	Coherence: the extent to which options are coherent with the overarching objectives of EU policy
		Economic		Environmental	Social	General			Comply with the EU and Member States' international obligations	Ensure better implementation of the Regulation		
		Ensure the competitiveness of operators	Enhance competition in order to better serve the interests of consumers	Minimise CO2 emissions and local airport pollution from air transport, both on a per-passenger and per-passenger kilometre basis	Maintain a wide range of direct air services including to regional airports	Ensure optimal allocation of capacity at each congested airport	Maximise the use of capacity at each congested airport	Ensure neutral and non-discriminatory slot allocation				
B1: Strengthen the independence of the coordinator	B1.1 and B1.2: Amend the Regulation to specify that the coordinator should be organisationally, as well as functionally, separate from interested parties such as airport management companies; should keep separate accounts.	- No impact	✓ Reduces risk that slot allocation process is not neutral and non-discriminatory, which would jeopardise competition.	- No impact	- No impact	✓ Reduces risk that slot allocation process does not lead to optimal allocation, although this may be theoretical only. Initially only impacts Spain and Portugal but could impact other States in future.	- No impact	✓✓ Reduces the risk of improper interference in slot allocation. Initially only impacts Spain and Portugal, but could impact other States in the future.	✓✓ Reduces the risk of improper interference in slot allocation. Initially only impacts Spain and Portugal, but could impact other States in the future.	✓ Reduces the risk of improper interference in slot allocation. Initially only impacts Spain and Portugal, but could impact other States in the future.	* Very limited negative impact due to cost of implementing organisational separation in Spain and Portugal (up to €350-500k per State per year, but probably less).	- No impact
	B1.3: Limit the types of adjacent activities that a coordinator may develop, in order to avoid any possible influence on the coordination activity.	- No impact	✓ Reduces risk that slot allocation process is not neutral and non-discriminatory, which would jeopardise competition.	- No impact	- No impact	✓* Positive and negative impacts: Potentially increases independence, but reduces incentive for coordinators to develop new services which may improve allocation process, such as online coordination system.	✓* Positive and negative impacts: Potentially increases independence, but reduces incentive for coordinators to develop new services which may improve allocation process, such as online coordination system.	✓ Would only impact UK/Ireland. Theoretical benefit as reduces risk of discriminatory allocation, but no evidence this has occurred.	- No impact	✓* Limited positive and negative impacts: Reduces risk of improper allocation, but also potentially reduces the income of the coordinator and hence the resources available for coordination activities (unless charges increased).	* Limited negative impact: Increase charges to airlines and airports for coordination services.	* Limited negative impact: Reduces competition and service provision in other markets (such as airport consultancy services, which the coordinator would no longer be able to provide).
	B1.4: Member States to have an obligation to ensure coordinator adequately funded	- No impact	- No impact	- No impact	- No impact	✓ Would ensure coordinators had sufficient funds to continue ensuring optimal allocation in (rare) circumstances such as failure of major national airline which was providing funding	✓ Would ensure coordinators had sufficient funds to continue seeking to maximise use of capacity (rare) circumstances such as failure of major national airline which was providing funding	✓ Would ensure coordinators not excessively dependent on one party for funding	- No impact	✓ Would ensure coordinators had sufficient funds to continue activities in (rare) circumstances such as failure of major national airline which was providing funding	- Costs of monitoring negligible (estimated €21,000 per year).	- No impact
	B1.5 Funding to be	-	✓	-	-	✓	-	✓✓	✓✓✓	✓✓	* Costs of monitoring negligible (estimated €21,000 per year).	-

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Option	Sub-options	Effectiveness									Efficiency: the extent to which objectives can be achieved for a given level of resources / at least cost (cost-effectiveness)	Coherence: the extent to which options are coherent with the overarching objectives of EU policy
		Economic		Environmental	Social	General			Comply with the EU and Member States' international obligations	Ensure better implementation of the Regulation		
		Ensure the competitiveness of operators	Enhance competition in order to better serve the interests of consumers	Minimise CO2 emissions and local airport pollution from air transport, both on a per-passenger and per-passenger kilometre basis	Maintain a wide range of direct air services including to regional airports	Ensure optimal allocation of capacity at each congested airport	Maximise the use of capacity at each congested airport	Ensure neutral and non-discriminatory slot allocation	Comply with the EU and Member States' international obligations	Ensure better implementation of the Regulation		
B2: improve transparency of slot and schedule data	shared between airlines and airports, with division between airlines and airports to be equitable	No impact	Reduces risk that slot allocation process is not neutral and non-discriminatory, which would jeopardise competition.	No impact	No impact	Reduces risk that slot allocation process does not lead to optimal allocation, although this may be theoretical only.	No impact	Reduces the risk of improper interference in slot allocation from company providing high share of funding. May be theoretical benefit only.	Sharing costs equitably between airlines consistent with principles in bilateral Air Services Agreements	Reduces the risk of improper interference in slot allocation from company providing high share of funding. May be theoretical benefit only.	Very limited negative impact due to cost of implementing new funding mechanism, required in less than half of States. One-off cost of changing funding mechanism estimated as €19,000 per coordinator.	No impact
	B2.1: Require coordinators to make historic schedule data available, for example through placing it in an online database	✓ Positive impact in principle, but all coordinators already publish information online through either EUACA or OCS databases.	✓ Positive impact in principle, but all coordinators already publish information online through either EUACA or OCS databases.	- No impact	- No impact	✓ Positive impact in principle, but all coordinators already publish information online through either EUACA or OCS databases.	- No impact	✓ Positive impact in principle, but all coordinators already publish information online through either EUACA or OCS databases.	- No impact	✓ Positive impact in principle, but all coordinators already publish information online through either EUACA or OCS databases.	- Amendment of the Regulation to require this would have minimal costs or benefits, as coordinators already do this	- No impact
	B2.2: Require coordinators to publish coordination parameters, local rules, and summary slot allocation online, and to publish annual reports	✓ Information would assist airlines seeking to launch or expand services	✓ Information would assist airlines seeking to launch or expand services	- No impact	- No impact	✓ Information would assist airlines seeking to launch or expand services	✓ Information would assist airlines seeking to launch or expand services	✓ Improved transparency would help demonstrate that allocation is neutral and non-discriminatory	- No impact	✓ Improved transparency would help demonstrate that coordinators are implementing the Regulation properly	- Some implementation costs but low (estimated administrative burden €94,000 per year, EU-wide)	- No impact
	B2.3: Require coordinators to retain and make available data for at least 5 years	- No impact	- No impact	- No impact	- No impact	✓ Information would assist regulatory authorities in monitoring that this objective is achieved	✓ Information would assist regulatory authorities in monitoring that this objective is achieved	✓ Information would assist regulatory authorities in monitoring that this objective is achieved	- No impact	✓ Information would assist regulatory authorities in monitoring that Regulation properly implemented	- Negligible cost to implement	- No impact
B3: better define correct use of slots	B3.1: Introduce a slot reservation fee (as an advanced payment of the airport charge), which would not be refundable if the carrier did not operate the service or if the slot was	✓* Some positive and negative impacts: reduces the risk that market entry is blocked by incumbents not releasing slots, but potential costs for airlines if services	✓ Positive impact: reduces the risk that market entry is blocked by incumbents not releasing slots	* Slight negative impact: increased number of flights leading to increased emissions; estimated EU-wide impact 475,000 tonnes of CO2	- No impact	✓ Positive impact: Significantly reduces the amount of capacity allocated to operators that do not intend to use it. Does not address incentive to delay	✓ Positive impact: Should increase capacity utilisation at some congested airports, by allowing airlines to expand services using capacity otherwise wasted	- No impact	*? Likely to be challenged by airlines on basis not consistent with bilateral agreements. However, risk minimal if revenue-neutral for airports,	✓ Positive impact: Significantly reduces the amount of capacity allocated to operators that do not intend to use it.	- Low implementation costs (one-off costs of approximately €14,000 per coordinated airport and ongoing costs of €4,000 per	- No impact

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		Economic		Environmental	Social	General			Comply with the EU and Member States' international obligations	Ensure better implementation of the Regulation		
		Ensure the competitiveness of operators	Enhance competition in order to better serve the interests of consumers	Minimise CO2 emissions and local airport pollution from air transport, both on a per-passenger and per-passenger kilometre basis	Maintain a wide range of direct air services including to regional airports	Ensure optimal allocation of capacity at each congested airport	Maximise the use of capacity at each congested airport	Ensure neutral and non-discriminatory slot allocation	Comply with the EU and Member States' international obligations	Ensure better implementation of the Regulation		
	handed back too late to be allocated to another carrier. This would be offset by a reduction in airport charges so as to be financially neutral.	cancelled for reasons outside their control				handback until immediately before deadline.	due to late handback. Based on Düsseldorf experience, could reduce late handback by 50% and could allow up to 1.3% increase in flights at some airports, although generally less as less congestion and/or less late handback.		as proposed.		year). However potentially legal challenge which would increase this. Risk of being ineffective if airports chose not to implement.	
	B3.2: Introduce penalties for late handback of allocated slots. Penalties would take the form of a fine payable to the national authorities (but would not include withdrawal of the slots, as this is covered by C8).	✓ Some positive impact: reduces the risk that market entry is blocked by incumbents not releasing slots	✓✓ Positive impact: reduces the risk that market entry is blocked by incumbents not releasing slots	* Slight negative impact: increased number of flights leading to increased emissions; estimated EU-wide impact 254,000 tonnes of CO2.	- No impact	✓✓ Positive impact: Significantly reduces the amount of capacity allocated to operators that do not intend to use it.	✓✓ Positive impact: Should increase capacity utilisation at some congested airports, by allowing airlines to expand services using capacity otherwise wasted due to late handback. Could allow up to 0.7% increase in flights at some airports, although generally less as less congestion and/or less late handback.	- No impact	- No impact	✓ Some positive impact: Reduces the amount of capacity allocated to operators that do not intend to use it.	* Implementation costs EU-wide of approximately €19 million NPV. Process for imposing fines is slow in some States, and this may reduce effectiveness of option. Higher cost, and not as effective, as slot reservation fees.	- No impact
	B3.3: Strengthen Articles 14(2), 14(5) and 14(6) to enhance role of coordinator, allow sanctions for no-slot operations and no-shows, and for failure to provide information required, and allow withdrawal of series when clear cannot or will not be used.	- No impact	- No impact	- No impact	- No impact	✓ Some limited benefits as reduces the risk of capacity being allocated to carriers that would not use it, for example because they do not have traffic rights.	✓ Some limited benefits as reduces the risk of capacity being allocated to carriers that would not use it, for example because they do not have traffic rights.	✓✓ Strengthens the administrative process for slot allocation by discouraging abuse.	- No impact	✓✓ Allows sanctions to be imposed for all forms of slot misuse, and ensures coordinator adequately informed about enforcement.	- No impact	- No impact
B4: Clarify	B4.1: Amend the	✓✓	-	✓	✓✓	***	***	**	-	-	-	-

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		Ensure the competitiveness of operators	Enhance competition in order to better serve the interests of consumers	Minimise CO2 emissions and local airport pollution from air transport, both on a per-passenger and per-passenger kilometre basis	Maintain a wide range of direct air services including to regional airports	Ensure optimal allocation of capacity at each congested airport	Maximise the use of capacity at each congested airport	Ensure neutral and non-discriminatory slot allocation	Comply with the EU and Member States' international obligations	Ensure better implementation of the Regulation		
definition and rights of general/business aviation	Regulation to make it possible for business aviation to be allocated a proportion of slots if the operators in aggregate provide a regular enough service to gain historical preference	Positive impact: facilities investment in infrastructure and aircraft by business aviation operators.	No impact	Positive impact in that reduces flights and hence emissions. However, probably a negative impact in terms of emissions per passenger due to low loadings on business aircraft.	Allows direct links between airports where insufficient demand for scheduled service. However impact limited as not accessible to most consumers.	Strongly negative impact: Reserving capacity for smallest aircraft reduces traffic that can be accommodated. Reduces passenger numbers at congested airports by up to 1.5% if 1% of slots allocated to business aviation.	Strong negative impact: Reduces number of slots available at congested airports due to need for increased separation. Lower utilisation achieved by business aviation. Reduces number of passengers per movement by approximately 98%, for commercial movements replaced with business aviation movements.	Negative impact: Application of 80% utilisation rule to business aviation in aggregate is not comparable to how it is applied to other sectors.	No impact	No impact	No impact	No impact
	B4.2: Amend the Regulation so that business aviation can obtain historic preference for programmed non-scheduled services	✓? Some positive impact: facilities investment in infrastructure and aircraft by business aviation operators.	✓? By treating business aviation equivalently, 'level playing field' for competition with commercial air services	✓ Positive impact in that reduces flights and hence emissions. However, probably a negative impact in terms of emissions per passenger due to low loadings on business aircraft.	✓? Allows direct links between airports where insufficient demand for scheduled service. However impact limited as not accessible to most consumers.	✘? Negative impact: Historic rights to capacity for smallest aircraft reduces traffic that can be accommodated.	✘? Negative impact: Reduces number of slots available at congested airports due to need for increased separation. Reduces number of passengers per movement (by approximately 98% for commercial flights replaced)	✓✓ Treats business aviation in the same way as commercial aviation	- No impact	✓✓ Ensures consistent interpretation on criteria for business aviation to gain historical preference	- Impacts of this option low or zero: even where coordinators adopt this interpretation of the current Regulation, business aviation almost never obtains historic preference, due to the nature of its operations	- No impact
B5: Clarify the role of the airport managing body as responsible for control of the activities of all operators present at the airport.	B5.1: Amend Article 14(1) to give the airport managing body the right to refuse to allow an aircraft to land if it does not have a slot (except in an emergency).	✓ Limited positive impact: could reduce operational disruption caused by no-slot operations, but this is limited	- No impact	- No impact	- No impact	✓ Helps ensure that capacity can only be utilised by the carriers that are allocated it. But impact minimal as very few no slot operations.	✓ Helps ensure that capacity can only be utilised by the carriers that are allocated it. But impact minimal as very few no slot operations.	- No impact	- No impact	✓ Limited positive impact: may deter off slot operations	✘ Limited negative impact: airport managing body not in a position to make operational decisions about whether there is sufficient airspace or airport capacity – these should be roles of coordinator and ATM	- No impact
	B5.2: Amend Article	✓	-	-	-	✓	-	-	-	✓✓	-	-

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		Economic		Environmental	Social	General							
		Ensure the competitiveness of operators	Enhance competition in order to better serve the interests of consumers	Minimise CO2 emissions and local airport pollution from air transport, both on a per-passenger and per-passenger kilometre basis	Maintain a wide range of direct air services including to regional airports	Ensure optimal allocation of capacity at each congested airport	Maximise the use of capacity at each congested airport	Ensure neutral and non-discriminatory slot allocation	Comply with the EU and Member States' international obligations	Ensure better implementation of the Regulation			
	14(1) to state that should consult with coordinator before rejecting flight plan, and coordinator should provide slot information to ATM authorities if requested	Limited positive impact: could reduce operational disruption caused by no-slot operations, but this is limited	No impact	No impact	No impact	Helps ensure that capacity can only be utilised by the carriers that are allocated it.	No impact	No impact	No impact	No impact	Positive impact: may deter off slot operations, and should facilitate exchange of necessary information between coordinator and ATM.	Overall impact limited – this option primarily serves to clarify the existing Article of the Regulation	No impact
B6: Support Single European Sky II	B6.1: Coordinator to collect schedule data for all airports, including level 1 airports	✓ Improves operational efficiency by facilitating planning of air traffic management system	- No impact	✓ Contributes to reduced emissions by facilitating planning of air traffic management system	- No impact	✓ Under most circumstances has no impact, as airports concerned are not congested, but could be beneficial in some rare circumstances such as during the volcanic ash or snow disruption.	✓ Under most circumstances has no impact, as airports concerned are not congested, but could be beneficial in some rare circumstances such as during the volcanic ash or snow disruption.	- No impact	- No impact	✓ Positive impact: coordinator would gain powers necessary to improve collection slot/schedule data for level 1 airports, where this is undertaken	- Implementation costs approximately €20,000 per year per airport that the new obligation to collect data covers. EU-wide implementation costs could be €3.3 million per year.	✓✓✓ Facilitates implementation of Single European Sky II, and benefits to be obtained from this	
B7: Protection of regional services	B7.1: Allow public authorities to purchase slots on secondary market	- No impact	- No impact	✓✓ Short distance regional services will generate lower emissions	✓✓ Allows regional links to be maintained, although would also displace other services	** Services for which slots paid for by public authorities would not be most economically efficient users of scarce capacity	** Services for which slots paid for by public authorities would not be most economically efficient users of scarce capacity	- No impact	- No impact	- No impact	✓ If a mechanism required to protect regional services, this is the most appropriate, as public authorities would have to cover (and therefore take into account) congestion costs of reserving capacity.	- No impact	
	B7.2: Allow Member States to reserve capacity for non-PSO regional services	- No impact	- No impact	✓✓ Short distance regional services will generate lower emissions	✓✓ Allows regional links to be maintained, although would also displace other services, and would only allow for regional services within the same Member State.	** Services for which slots paid for by public authorities would not be most economically efficient users of scarce capacity	** Services for which slots paid for by public authorities would not be most economically efficient users of scarce capacity	** Risk that this right could be abused to keep out new entrants and protect incumbent carriers from competition.	- No impact	** Risk that this right could be abused to keep out new entrants and protect incumbent carriers from competition.	- No impact	- No impact	
C1 Define	C1.1 Amend the	-	-	-	-	-	-	-	-	-	-	-	

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		Economic		Environmental	Social	General			Ensure better implementation of the Regulation				
		Ensure the competitiveness of operators	Enhance competition in order to better serve the interests of consumers	Minimise CO2 emissions and local airport pollution from air transport, both on a per-passenger and per-passenger kilometre basis	Maintain a wide range of direct air services including to regional airports	Ensure optimal allocation of capacity at each congested airport	Maximise the use of capacity at each congested airport	Ensure neutral and non-discriminatory slot allocation	Comply with the EU and Member States' international obligations				
ownership of slots	Regulation to explicitly define slots as licenses to use public property	No impact	No impact	No impact	No impact	No impact	No impact	No impact	No impact	No impact	No impact	No impact	No impact
C2: Define an EU regime for secondary trading	C2.1: Introduce secondary trading at all EU airports	✓✓ Facilitates market entry and expansion	*? Limited negative to no impact: Evidence from secondary trading in the UK is no impact on competition, but could be higher risk at other airports which are already more concentrated.	** Negative impact: increased number of longer distance flights with larger aircraft, leading to increased emissions. Overall increase in CO2 emissions EU-wide of 5.1 million tonnes.	* May reduce services to regional airports, as regional airlines sell slots to carriers that can use them more profitably.	✓✓✓ Strong positive impact: Slots more likely to be allocated to airlines that place highest value on them, and hence will utilise them most efficiently. Up to 13% increases in traffic at some of the most congested airports.	✓✓ Positive impact: By increasing opportunity cost of holding on to slots that are not used, should increase capacity utilisation. Increases the number of passengers transported per aircraft.	- No impact	✓ Limited positive impact: By increasing opportunities for non-EU carriers to enter congested EU airports, may facilitate negotiation of new 'Open Skies' agreements.	✓✓ Facilitates improved transparency of secondary trading, and improves consistency between EU airports.	✓ Should reduce the costs of secondary trading where this already occurs.	- No impact	
	C2.2: Secondary trading at all EU airports to be subject to caps on market shares of airlines	*? Would prevent expansion by airlines whether or not this presented real competition problems	✓ Prevents excessively high market share being acquired as a result of secondary trading	- No impact	* Possible negative impact: If number of slots airlines can hold is capped, likely to give up least profitable routes, which will usually be those to regional airports	* Possibly negative impact if it prevents airlines acquiring slots to expand services even where there are not real competition problems	- No impact	- No impact	- No impact	- No impact	- No impact	** Would not be an efficient means of achieving objective of avoiding negative impacts on competition – caps on share would be a blunt instrument, which would not prevent growth of some carriers even where there was no competition concern, and not address some genuine issues.	- No impact
	C2.3: Secondary trading at all EU airports subject to restrictions on the placing of anti-competitive restrictive covenants	✓ Prevents trades from being subject to restrictions that limits airlines' ability to compete	✓ Prevents trades from being subject to restrictions that limits airlines' ability to compete	- No impact	- No impact	✓ Capacity allocation likely to be more optimal if trades not subject to restrictions that limits airlines' ability to compete	- No impact	- No impact	- No impact	- No impact	- No impact	- Impact limited as Article 101 would already prohibit restrictive covenants where there is a Community dimension to a trade; also already prohibited by national competition law in some States	- No impact
	C2.4 (a): To require	-	✓✓	-	-	✓	-	-	-	✓✓	✓✓	-	

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		Ensure the competitiveness of operators	Enhance competition in order to better serve the interests of consumers	Minimise CO2 emissions and local airport pollution from air transport, both on a per-passenger and per-passenger kilometre basis	Maintain a wide range of direct air services including to regional airports	Ensure optimal allocation of capacity at each congested airport	Maximise the use of capacity at each congested airport	Ensure neutral and non-discriminatory slot allocation	Comply with the EU and Member States' international obligations	Ensure better implementation of the Regulation		
	a degree of post-trade transparency, information on which trades have occurred should be made public, and whether trade is temporary or permanent	No impact	Assists regulatory authorities in monitoring competition impacts of secondary trading	No impact	No impact	Assists regulatory authorities in monitoring that secondary trading does not lead to increased concentration or other negative impacts	No impact	No impact	No impact	Improves transparency of secondary trading	Improves transparency, but impact limited. Implementation costs minimal (approximately €130,000 EU-wide)	No impact
	C2.4 (b): Price information also to be released to the coordinator, and summary published.	- No impact	✓✓✓ Assists regulatory authorities in monitoring competition impacts of secondary trading. Potential this is more effective if price information available.	- No impact	- No impact	✓* Assists regulatory authorities in monitoring secondary trading. But may deter airlines from trading.	- No impact	- No impact	- No impact	** Impractical to enforce: coordinators do not have power to investigate transactions to prove whether complete information disclosed.	** Information released could be incomplete or misleading, and therefore of little value.	- No impact
	C2.5: To facilitate pre-trade transparency, coordinators to be required to set up website where airlines can post details of slots to they wish to purchase or divest	✓ May increase the transparency and liquidity of the slot market, encouraging trading	✓✓ Assists regulatory authorities in monitoring competition impacts of secondary trading	- No impact	- No impact	✓✓ May increase the transparency and liquidity of the slot market, encouraging trading and hence the benefits to be obtained	- No impact	- No impact	- No impact	✓✓ Improves transparency of secondary trading	✓✓ Implementation costs minimal (approximately €130,000 EU-wide)	- No impact
	C2.6: Centralised auctions of slots returned to the pool, with revenue going to the carrier which released the slot but without it being able to determine which carrier obtained the slot	** May reduce volume of trades and therefore offsets benefits. Makes slot leases impossible.	✓✓ Limited positive impact: Easier for new entrants to obtain slots	- No impact	- No impact	** Reduces volume of trades and therefore offsets benefits. Makes slot leases impossible.	* May reduce volume of trades and therefore offsets benefits	- No impact	- No impact	✓✓ Improves transparency of secondary trading	*** Increases direct costs of trading and has significant negative consequences of making slot leases impossible.	- No impact
C3 or C4:	Auctions for new	✓✓	✓✓	**	*	✓✓✓	✓✓✓	✓✓✓	-	-	-	-

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		Ensure the competitiveness of operators	Enhance competition in order to better serve the interests of consumers	Minimise CO2 emissions and local airport pollution from air transport, both on a per-passenger and per-passenger kilometre basis	Maintain a wide range of direct air services including to regional airports	Ensure optimal allocation of capacity at each congested airport	Maximise the use of capacity at each congested airport	Ensure neutral and non-discriminatory slot allocation	Comply with the EU and Member States' international obligations	Ensure better implementation of the Regulation		
Auctions without withdrawal of slots	capacity only	Facilitates market entry and expansion. May encourage Member States and airports to expand capacity. However impact limited to congested airports which expand.	Facilitates market entry and expansion. May encourage Member States and airports to expand capacity.	Negative impact: increased number of larger aircraft and longer distance flights leading to increased emissions. Incremental emissions from Heathrow flights if new slots allocated by auction 30% greater than if slots allocated by administrative criteria.	Limited negative impact: Airlines unlikely to buy slots at auction for flights to regional airports. If mixed mode implemented at Heathrow 16% of slots might be allocated by an administrative mechanism to regional flights; only 1% would be by an auction. Impact limited to congested airports which expand.	Where applied, ensures most efficient possible allocation of new capacity. If mixed mode implemented at Heathrow, auction of new slots leads to 10.6% increase in passenger numbers compared to 8.4% for administrative mechanism. Impact limited to congested airports which expand.	Should result in better utilisation of new capacity, as airlines unlikely to buy slots they will not use. If mixed mode implemented at Heathrow, auction of new slots leads to 10.0% increase in flights compared to 9.8% for administrative mechanism. However impact limited to congested airports which expand.	Auctions are neutral and non-discriminatory.	No impact	No impact	Some implementation costs (estimated €1.3 million for auction at Heathrow). However this is partly offset by avoiding costs of secondary trading on newly allocated slots.	No impact
	Auctions for pool slots	** Limited negative impact: May be impractical to implement within current allocation and scheduling process, and hence cause disruption to airline scheduling, increasing operating costs and reducing utilisation.	✓ Limited positive impact: May be more effective than current new entrant rule in promoting competition.	** Negative impact: increased number of larger aircraft and longer distance flights leading to increased emissions.	* Limited negative impact: Airlines unlikely to buy slots at auction for flights to regional airports.	✓ Limited positive impact: Should result in more efficient allocation of pool slots than current administrative approach. But impact very limited as few slots available through pool at congested airports.	* Limited negative impact: May be impractical to implement within current allocation and scheduling process, and hence cause disruption to airline scheduling, increasing operating costs and reducing utilisation.	✓✓✓ Auctions are neutral and non-discriminatory.	- No impact	** Negative impact: May be impractical to implement within current allocation and scheduling timescale as unlike auctions for new capacity, pool slots may only become available at short notice (for example if a carrier becomes insolvent)	- No impact	- No impact
C3 or C4 and C5: Withdrawal and auction of a proportion of slots each year		** Negative impact: Causes disruption to airline scheduling, increasing operating costs by €100-382 million per year at the two airports initially applied at (in 2021 when all slots auctioned). Exacerbates airlines financial problems and reduces	✓ Easier for new entrants to obtain slots, if they have sufficient financial resources. However many new entrants may lack resources; also holders of slots may have an advantage as easier to reallocate existing slots within their existing portfolios to	** Negative impact: increased number of longer distance flights with larger aircraft leading to increased emissions. Additional CO2 emissions of 3.3-3.6 million tonnes for flights from the two airports at which applied (in 2021, once all slots auctioned).	** Negative impact: Airlines unlikely to buy slots at auction for flights to regional airports. At Orly share of flights with regional aircraft reduced by 7% (in 2021, once all slots auctioned). At Heathrow reduces share of short haul by 3%, but impact limited as few remaining short/regional	✓✓✓ Positive impact: Auctions should result in the most economically efficient allocation of slots. Increases passenger numbers by 2.6-3.9% at Heathrow and 12.4-13% at Orly (in 2021, once all slots have been withdrawn and auctioned).	✓✓ Positive impact: 4.5% increase in passengers per aircraft at Heathrow and 13% increase at Orly. Impact partly offset by reduction in number of flights, due to impact on airline scheduling.	✓✓✓ Positive impact: Auctions are neutral and non-discriminatory.	** Likely to be challenged on the basis of inconsistency with EU-US bilateral, and possibly on basis of inconsistency with wider principles of EU law.	*** Significant practical problems in implementing this option. Problems reduced, but not avoided, if policy limited to a very small number of airports.	** Significantly greater implementation costs than secondary trading, which achieves much of the same results. However at Orly, due to specific nature of constraints at the airport, this option might still produce net higher benefits.	- No impact

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		Ensure the competitiveness of operators	Enhance competition in order to better serve the interests of consumers	Minimise CO2 emissions and local airport pollution from air transport, both on a per-passenger and per-passenger kilometre basis	Maintain a wide range of direct air services including to regional airports	Ensure optimal allocation of capacity at each congested airport	Maximise the use of capacity at each congested airport	Ensure neutral and non-discriminatory slot allocation	Comply with the EU and Member States' international obligations	Ensure better implementation of the Regulation		
		investment. Causes particular difficulties for EU-based network carriers.	replace withdrawn slots. Main incumbent likely to have an advantage in the auction.		flights especially in peaks.							
C6: Introduce alternative criteria for slot allocation through increased flexibility of local rules	C6.1: Amend Regulation to allow wider criteria than efficient use of capacity (such as environmental or regional considerations) to be employed when undertaking primary allocation of slots. The precise criteria would be decided by the coordination committees at individual airports.	* Possible negative impact, if slot allocation not made on neutral and non-discriminatory basis.	* Possible negative impact, if slot allocation not made on neutral and non-discriminatory basis.	✓? At best marginal positive impact, as already scope for local emissions to be taken into account in capacity parameters and hence in slot allocation.	✓✓ Positive impact if it results in more direct services to regional airports being retained.	** Negative impact: decisions less likely to be made on basis of maximising capacity utilisation and efficient allocation.	** Negative impact: decisions less likely to be made on basis of maximising capacity utilisation and efficient allocation.	** Negative impact: Increased risk of interference in process and discrimination between carriers.	- No impact	** Negative impact: Increased risk of interference in process and discrimination between carriers.	** Negative impact: Local emissions objectives can be achieved through capacity parameters. Global emissions reduction best achieved through ETS or other pricing measures. Regional accessibility objectives can be obtained through PSOs.	** Use of slots policy to address environmental concerns is not coherent with wider policy approach of obtaining efficient use of infrastructure, including efficient levels of emissions, through marginal social cost pricing
C7: Avoid dispersion of slot portfolio due to existing rule on new entrants	C7.1: Modify current rule to increase number of services which may be operated to be classified as a new entrant.	✓ More effective than current new entrant rule in promoting sustainable competition. Impact limited as few new entrant slots available at most congested airports – except when an airport expands.	✓ More effective than current new entrant rule in promoting sustainable competition. Impact limited as few new entrant slots available at most congested airports – except when an airport expands. But could result in slightly higher share of pool slots allocated to main incumbent, as it would account for a higher share of 'new incumbent' requests.	* Small negative impact due to slight increase in number of flights – increases CO2 emissions by 102,000 tonnes EU-wide. If Heathrow expanded, initially 230,000 tonne greater increase in CO2 emissions if new entrant rule revised.	* Limited negative impact, as fewer new services launched on 'thin' routes. In case Heathrow expanded, proportion of new slots initially used for long haul increases from 28% to 32%.	✓ New entrant slots more likely to be allocated to carriers that will use them efficiently. Impact very small (<0.1% increase in number of passengers), except in case where capacity expanded at a congested airport. If Heathrow expanded, initial passengers increases by 8.7% with revised rule compared to 8.4% with current rule.	✓ New entrant slots more likely to be allocated to carriers that will maximise utilisation. However impact very small (<0.1% increase in number of flights) except in case capacity expanded at a congested airport.	- No impact	- No impact	✓✓✓ Proposed changes would address abuse of new entrant rule and unintended consequences.	✓ Should be no implementation costs – allocation of slots to new entrants is part of regular role of coordinator.	- No impact

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		Economic	Environmental	Social	General	Ensure the competitiveness of operators	Enhance competition in order to better serve the interests of consumers	Minimise CO2 emissions and local airport pollution from air transport, both on a per-passenger and per-passenger kilometre basis	Maintain a wide range of direct air services including to regional airports	Ensure optimal allocation of capacity at each congested airport		
	C7.2: Remove new entrant rule and replace with rule giving priority to slot requests from carriers other than the dominant carrier and its partners where these have more than a given number of slots.	*	-	-	*	✓	✓	-	-	-	*	-
		In effect this caps the market share of the dominant carrier. Whilst this could ensure competitiveness of other carriers, excessively blunt instrument as dominance impossible to define in administrative terms.	May be more effective than current new entrant rule but blunt instrument that could have unintended consequences.	No impact	Limited negative impact, as fewer new services launched on 'thin' routes	New entrant slots more likely to be allocated to carriers that will use them efficiently	New entrant slots more likely to be allocated to carriers that will maximise utilisation	No impact	No impact	No impact	Blunt instrument - dominance not possible to define in administrative terms as dependent on too many factors.	No impact
C8: Improve slot utilisation	C8.1A: Raise the utilisation ratio required to retain slots to 85%, clarifying rules on 'fill in'	-	✓	*	✓	✓	✓	-	-	✓	-	-
		No impact	Small positive impact: airlines less likely to retain slots they do not plan to use, allowing some additional scope for new entry.	Limited negative impact - will result in operation of some services that would not otherwise have been operated due to low demand. Increases CO2 emissions by 150,000 tonnes/year EU-wide.	Some positive impact on service quality: Reduces number of flights cancelled for commercial reasons	Improves capacity allocation, as less likely to be allocated to carriers that will not use it	Increases utilisation of capacity at some of the most congested airports, although impact small as few slot series have 80-84% utilisation. Maximum increase of 0.2% in number of flights, but lower at less congested airports.	No impact	No impact	Proposed changes would clarify Regulation and reduce allocation of slots to carriers that do not intend to use them	No impact	No impact
	C8.1B: Raise the utilisation ratio required to retain slots to 90%, clarifying rules on 'fill in'	*	✓	*	✓	✓	✓	-	-	✓	*	-
		With 90% utilisation threshold, some risk that airlines would lose slots for reasons outside their control. Reduces aircraft/crew utilisation and increases airline operating costs by €48 million/year.	Small positive impact: airlines less likely to retain slots they do not plan to use, allowing some additional scope for new entry.	Limited negative impact - will result in operation of some services that would not otherwise have been operated due to low demand. Increases CO2 emissions by 336,000 tonnes/year EU-wide.	Some positive impact on service quality: Reduces number of flights cancelled for commercial reasons	Improves capacity allocation, as less likely to be allocated to carriers that will not use it	Increases utilisation of capacity at some of the most congested airports, Maximum increase of 0.7% in number of flights, but lower at less congested airports.	No impact	No impact	Proposed changes would clarify Regulation and reduce allocation of slots to carriers that do not intend to use them	Not cost effective: Negative impacts on airline operating costs offset part of the economic benefits gained by improved utilisation.	No impact
	C8.2: Increase the	*✓	-	*	-	✓	✓	-	-	✓	-	-

Option	Sub-options	Effectiveness									Efficiency: the extent to which objectives can be achieved for a given level of resources / at least cost (cost-effectiveness)	Coherence: the extent to which options are coherent with the overarching objectives of EU policy	
		Economic	Enhance competition in order to better serve the interests of consumers	Environmental	Social	General	Maximise the use of capacity at each congested airport	Ensure neutral and non-discriminatory slot allocation	Comply with the EU and Member States' international obligations	Ensure better implementation of the Regulation			
	number of slots required to qualify as a series from the current level of 5	Positive for some operators (especially low cost scheduled carriers) but negative for others, particularly charter airlines.	No impact	Limited negative impact - will result in operation of some services that would not otherwise have been operated due to low demand. Increases CO2 emissions by 768,000 tonnes/year EU-wide	No impact	Allows more capacity to be allocated at some of the most congested airports, increasing the number of slots allocated by up to 0.8%.	Increases utilisation of capacity at some of the most congested airports. Maximum increase of 0.8% in number of flights, but depends on profile of traffic and degree of congestion – lower elsewhere.	No impact	No impact	Reduces fragmentation of the schedule and may therefore reduce workload for coordinators.	No impact	No impact	
Combined recommended option (B1.1, B1.2, B1.4, B2.2, B3.1, B3.2, B6, C2.1, C2.4, C2.5, C3/C4 (new capacity only), C7.1, C8.1A, C8.2		Strong positive impact: Secondary trading facilitates market entry and expansion. Auctions for new capacity may encourage Member States and airports to expand capacity. Also results in improved transparency of data.	Positive impact: Data transparency is improved, facilitating new entry, Neutrality and independence of coordinator assured more effectively. Slot reservation fees reduce the risk that market entry is blocked by incumbents not releasing slots	Negative impact: increased number of flights, and increased number of longer distance flights with larger aircraft, leading to increased emissions. Overall increase in CO2 emissions EU-wide of 7.0 million tonnes.	Negative impact: Introduction of secondary trading may reduce services to regional airports, as regional airlines sell slots to carriers that can use them more profitably.	Strong positive impact: As a result of secondary trading and auctions for new capacity, slots more likely to be allocated to airlines that place highest value on them, and hence will utilise them most efficiently.	Positive impact: Slot reservation fees, extended series lengths, and higher utilisation criteria result in higher number of flights operated within constrained capacity. Secondary trading and auctions for new capacity increase number of passengers per aircraft.	Positive impact: Neutrality and independence of coordinator assured more effectively, Improved transparency would help demonstrate that allocation is neutral and non-discriminatory.	Limited positive impact: By increasing opportunities for non-EU carriers to enter congested EU airports, may facilitate negotiation of new 'Open Skies' agreements. However some risk of legal challenge to slot reservation fees (limited if revenue neutral).	Positive impact: Facilitates improved transparency of coordination process, and in particular of secondary trading. Abuses of new entrant rule addressed. Slot monitoring and enforcement improved.	-	Recommended options have low implementation costs. Should reduce the costs of secondary trading where this already occurs.	Ensures consistency of slot Regulation with Single European Sky II initiative.
Combined recommended option (B1.1, B1.2, B1.4, B2.2, B3.1, B3.2, B6, C2.1, C2.4, C2.5, C3/C4 (new capacity only), C5, C7.1, C8.1A, C8.2		Slight positive impact: Secondary trading facilitates market entry and expansion, but auctions for existing capacity disrupt airline scheduling and increase operating costs. Auctions for new capacity may encourage investment in new capacity. Also results in improved transparency of data.	Positive impact: Data transparency is improved, facilitating new entry, Neutrality and independence of coordinator assured more effectively. Slot reservation fees reduce the risk that market entry is blocked by incumbents. Easier for new entrants to obtain slots at auctions if they have sufficient financial resources	Negative impact: increased number of flights, and increased number of longer distance flights with larger aircraft, leading to increased emissions. Overall increase in CO2 emissions EU-wide of 8.5-8.8 million tonnes.	Negative impact: Introduction of secondary trading may reduce services to regional airports, as regional airlines sell slots to carriers that can use them more profitably. Airlines unlikely to buy slots at auctions for flights to regional airports.	Strong positive impact: As a result of secondary trading and auctions for new capacity, slots more likely to be allocated to airlines that place highest value on them, and hence will utilise them most efficiently.	Positive impact: Slot reservation fees, extended series lengths, and higher utilisation criteria result in higher number of flights operated within capacity. Secondary trading and auctions increase number of passengers per aircraft, although partially offset by impact of auctions for existing capacity on airline scheduling	Positive impact: Neutrality and independence of coordinator assured more effectively, Improved transparency would help demonstrate that allocation is neutral and non-discriminatory. Auctions are neutral and non-discriminatory	Negative impact. By increasing opportunities for non-EU carriers to enter congested EU airports, may facilitate negotiation of new 'Open Skies' agreements. However, risks of legal challenge auctions for existing capacity and slot reservation fees (limited if these are revenue neutral).	Negative impact: Facilitates improved transparency of coordination, and in particular of secondary trading. Abuses of new entrant rule addressed. Slot monitoring and enforcement improved. However, significant practical problems in implementing auctions for existing capacity.	*	Recommended options have low implementation costs, and costs of secondary trading reduced where this already occurs. However, implementation of slot withdrawal causes significant costs for airlines whilst not achieving significantly greater benefits than secondary trading alone.	Ensures consistency of slot Regulation with Single European Sky II initiative.

Recommendations

12.10 The analysis of data, public consultation and interviews undertaken for this study have shown that, although there is no single severe problem with the operation of the Regulation at present, there are a number of issues. These fall into the following main categories:

- **Sub-optimal use of capacity at some airports:** The system of slot coordination cannot generate more airport capacity, but should be designed to ensure that limited capacity is used as effectively as possible. At some airports, this does not occur, because of factors which include a significant proportion of slots being unutilised, and use of a high proportion of small aircraft, limiting the number of passengers that can be transported within the constrained capacity. In addition, some European regions are losing direct services to hub airports as airlines use their slots for other services.
- **Difficulties for new entrants in obtaining slots:** Despite significant new competition in the European air transport market, including the growth of low cost airlines such as easyJet and Ryanair, the system of historical preference means that it is very difficult for new entrants to challenge the dominant position of the traditional incumbent airlines at the most congested airports. At these airports, the mobility (turnover) of slots is very low. Incumbent carriers have little incentive to give up slots, even when other carriers could use them more effectively than they could.
- **The operation of slot coordination:** As there are significant differences between the organisation and operation of different coordinators, these issues also vary, but include (in some cases) lack of transparency of data, insufficient independence, and inadequate application of the requirements in the Regulation relating to slot monitoring and enforcement.
- **Consistency with the Single European Sky:** In order to improve the gate-to-gate performance of European air traffic management, airports need to be integrated into the planning of the network.

12.11 The key drivers of these problems are:

- **Changes in the air transport market since the Regulation was introduced:** In particular, there is increasing airport congestion, as it is not possible to expand capacity to meet demand at all airports. This means that the Regulation has more impact, and will have more impact in the future, than it did at the time that it was introduced. In addition, the Regulation was introduced at a time when the European air transport market was still dominated by a small number of traditional national carriers; it is now much more competitive. The Regulation also predates the Single European Sky initiative.
- **Lack of clarity in some elements of the Regulation:** In some respects, the Regulation specifies general principles (such as functional independence of the coordinator) without specifying in detail how this should be achieved. It is less detailed than, for example, the IATA World Scheduling Guidelines. In particular, the key issue of secondary trading is left undefined. This means it is interpreted differently in different Member States.
- **In some Member States, failure to implement some parts of the Regulation effectively:** In addition, as the Regulation is not very specific in some respects, it is difficult for the Commission and Member States to enforce.

12.12 Although the most effective way to address these problems would be to expand airport capacity, in many cases this is not a realistic option, given environmental and noise concerns around some major European airports. As congestion at some airports is likely to worsen, and more airports will become congested in the future, over time these problems will become more widespread and have a greater impact if they are not addressed. The rest of this section outlines the recommended solutions. At the end of the section, we summarise how the recommendations are designed to address the various problems that have been identified with the operation of the Regulation.

Options to improve the operation of the coordinators

12.13 The Commission's 2007 Communication stated that some airlines were not satisfied with the level of independence of some coordinators. We found that most stakeholders are now satisfied that coordinators are independent in practice, but there are a number of arrangements which could be considered to limit the independence of coordinators at least in theory. In particular, the fact that the coordinator is part of the airport management company in Spain and Portugal means that it is difficult to prove that the coordinator in these States does operate independently, and depending on interpretation this could be considered to be an infringement of the current Regulation. In addition, the fact that funding of some coordinators is concentrated on a small number of airlines means that some coordinators are excessively financially dependent on one interested party, which both could be considered to compromise their independence, and could also leave the coordinator vulnerable in the case that that airline had financial problems.

12.14 **In order to address these issues, we recommend that the Regulation should be amended to:**

- **require organisational as well as functional separation of the coordinators from interested parties such as airlines and airport management companies;**
- **require that funding of the coordinator be shared between airlines and coordinated airports, divided between airports according to the workload at each airport, and between airlines according to their share of operations at those airports; and**
- **give Member States the ultimate responsibility to ensure that the coordinator has sufficient resources to undertake its tasks.**

12.15 The amount of information published by coordinators varies considerably, and whilst all coordinators provide information to one of two online databases, there is limited access to these, and the scope of information available through these is limited. Many coordinators also publish detailed information on demand, capacity and utilisation on their websites, which is helpful to airlines and other stakeholders, but not all do. **In order to improve transparency, we also recommend that all coordinators should publish online:**

- **all capacity parameters and local guidelines applying at each coordinated airport;**
- **at the start of every season, a summary of requested and allocated slots and capacity, by day, for the peak week, at each coordinated airports;**
- **at the end of every season, a summary of slot utilisation by airline; and**

- **an annual report on their activities.**

Options to ensure proper use of slots

- 12.16 Coordinators informed us that there continues to be a problem of late handback of slots. Where this occurs at congested airports, it can prevent these slots from being used by other airlines, and therefore leads to under-utilisation of constrained capacity. Although the net effects of this are small in proportion to the number of flights operated, and it rarely occurs at the most congested airports such as London Heathrow and Paris Orly, if any capacity at congested airports is left unused as a result of late handback, this could have a significant negative economic impact.
- 12.17 A slot reservation fee was introduced at Düsseldorf airport in 2003/4 and significantly reduced the problem of late handback. Slot reservation fees are not referred to by the current Regulation and therefore it is not clear whether they are permitted or not. **We recommend that the Regulation should make clear that slot reservation fees are not inconsistent with the Regulation provided revenue from fees (including fees for slots that are not operated) offsets other airport charges, and therefore that the fees are revenue-neutral for airports**, but it should be up to individual States and airports whether to introduce them. A decision to introduce a reservation fee would have to take into account, and might require changes to be made to, the system of regulation of airport charges in the Member State concerned. There is a risk that the introduction of a slot reservation fee could be challenged by airlines on the basis of inconsistency with bilateral Air Service Agreements, particularly the EU-US Open Skies agreement, but this risk would be significantly reduced if slot reservation fees offset other airport charges and are revenue neutral.
- 12.18 Some States including Germany and Spain also have penalties in national law for late handback of slots. Although coordinators argued that penalties would be less effective than reservation fees, they do have some advantages:
- penalties can be more flexible and would not be imposed where there was a good reason for late handback, but could be imposed for deliberately holding back slots until just before the deadline;
 - there is more stakeholder support for penalties: some airlines and airline associations have indicated support for penalties being available for deliberate late handback; and
 - unlike slot reservation fees, there should be no risk of challenge on the basis of inconsistency with bilateral agreements.
- 12.19 **Therefore, we recommend that the Regulation should state that penalties should be available for late handback of slots.** We also recommend that a number of other, relatively minor, changes should be made to the system of slot enforcement as defined in Article 14, to make this more effective. These include:
- Article 14 should be extended to require that sanctions be available for failing to provide reasonably requested information, or providing misleading or false information. This would be particularly important if coordinators had a role providing data to the Network Manager (discussed below).
 - Article 14(1) should be amended to clarify that a flight plan should only be

rejected after consultation with the coordinator, and to clarify that the coordinator should provide information on cleared airport slots to the air traffic management authorities if requested.

- Article 14(2) should be extended to allow the coordinator to withdraw slots from an airline if it does not have traffic rights or other necessary permissions.
- Article 14(5) should be amended to allow sanctions to be imposed for repeated **or** intentional misuse, instead of repeated **and** intentional misuse, and should explicitly state that sanctions can be imposed for ‘no slot’ operations and failure to cancel a slot that is not to be used (‘no shows’).
- Article 14(5) should be amended to ensure that, where the coordinator is not the authority responsible for imposing sanctions, it should be informed of the outcome of a case that it refers to the appropriate authorities, including the details of any sanction imposed.
- Article 14(6) should be extended to give coordinators the right to withdraw a series **before** the start of the season if the air carrier concerned cannot demonstrate that it intends to use it, so that there is time to allocate it to another carrier.

12.20 In addition, some Member States have not complied with the obligations in the existing Regulation to introduce penalties. We recommend that the Commission should use its powers to encourage these States to comply with the Regulation.

Business aviation

12.21 It is currently very difficult for business/general aviation to gain historic rights to slots, as its operations are usually ad hoc. As certain airports become more congested, it is likely that business aviation flights will not be able to obtain ad hoc slots to operate. This could be addressed by reserving slots for business aviation. However, this would not be an efficient use of constrained capacity, as business aviation flights typically carry 2-3 passengers, far less than commercial flights. The overall impact on the business aviation sector would also be limited as only a small proportion of business aviation flights use large airports. Member States already have other tools by which they can reserve capacity for business aviation, if they believe this to be appropriate, and therefore we recommend that no change is made to the Regulation in this respect.

12.22 There is also some variation in how coordinators interpret the current Regulation: some coordinators consider that business aviation should not gain historic rights unless they operate at the same time, on the same day **and** on the same route, whereas other coordinators consider that they do not have to operate on the same route. **However, if any change to this made it possible for business aviation to gain historic rights at the most congested airports, this would not be an efficient use of constrained capacity and therefore we recommend that no change is made.**

Single European Sky II

12.23 Slot coordinators may have a role to play in the Single European Sky. The Network Manager will need information on schedules from all European airports in order to plan air traffic management capacity. In principle this could be provided by the coordinators, as they already collect extensive data covering most significant European airports, but in most States coordinators currently do not have powers to collect data for airports which are neither coordinated nor schedule facilitated. If the

Regulation is amended, the coordinators could be given the powers necessary to collect this data, if the Network Manager in the future requests that they do.

Secondary trading

- 12.24 There has been secondary trading in slots at the London airports since a ruling by the High Court of England and Wales in 1999. The Commission's 2008 Communication stated that it would not pursue infringement proceedings against States in which secondary trading occurred, provided this was in a transparent manner. However, despite this Communication, secondary trading still appears largely to take place at the London airports. This could be partly because secondary trading is not transparent elsewhere, but at some airports, secondary trading cannot occur: it is explicitly prohibited by national law in Spain, and at Paris Orly airport it also cannot occur due to the annual cap on slots, which prevents air carriers undertaking artificial exchanges, which are currently necessary because the Regulation does not permit direct transfers of slots between carriers in most circumstances.
- 12.25 Secondary trading has generated significant benefits at London Heathrow airport, in terms of increased slot mobility (turnover), aircraft size and flight length. At Gatwick, there have also been a large number of trades but the impacts have been much less. **We recommend that the Regulation should be amended to explicitly permit secondary trading at all EU airports, by permitting temporary or permanent transfers of slots between air carriers.** This could generate significant economic benefits by improving the economic efficiency of slot allocation and utilisation at EU airports where demand for slots significantly exceeds capacity, such as Paris Orly and Düsseldorf. However, the impacts at these airports would be less than at Heathrow, and the impacts would be limited at other EU airports where demand for slots does not exceed supply to the same extent. The economic benefits from secondary trading should increase over time if the gap between demand and capacity increases and congestion worsens.
- 12.26 Competition authorities have expressed a concern that secondary trading could lead to increased market concentration. The evidence for this at the London airports is mixed, and secondary trading increases the cost (or opportunity cost) to incumbent carriers of acquiring or holding slots that they cannot use profitably. However, there could be a greater risk of negative impacts at other airports where the main incumbent carrier has a larger share of slots. We recommend the following measures could be taken to reduce this risk:
- anti-competitive restrictive covenants could be explicitly prohibited (these are already be prohibited by Article 101 of the Treaty, but this does not always apply as not every slot trade would have a Community dimension); and
 - measures should be taken to make slot trading more transparent, for example by publishing all trades which take place, and setting up a mechanism for carriers to advertise their willingness to purchase and divest particular slots (these measures have already been taken in the UK but not in other Member States in which secondary trading may occur).
- 12.27 We have also evaluated more radical options to address the risk of negative impacts on competition, such as blind auctions of slots carriers wish to dispose of, and forced

disclosure of traded prices. However, we do not recommend these, because there is a risk that these would reduce the number of trades and hence the benefits of secondary trading, in order to address a problem which may not actually occur. In addition, requirements on transparency of price information could be difficult or impractical to enforce.

Auctions of slots where new capacity is created

- 12.28 Where capacity is expanded at a congested airport, an administrative allocation is unlikely to lead to an economically efficient allocation of the new capacity. The results of the administrative allocation could be improved if the new entrant rule was revised, but nonetheless an auction of the new capacity should lead to a more efficient allocation. Whilst, as discussed below, an auction of existing slots would be likely to generate significant practical difficulties, these can be avoided if auctions apply for new capacity only.
- 12.29 An auction would only be beneficial under certain relatively unusual circumstances: an auction would have most impact if it was decided to expand a congested airport such as Heathrow or Orly, but there would be no point undertaking an auction where the expansion of capacity was so significant that demand would no longer exceed supply, as in this case the auction would have no impact. Therefore, the decision as to whether to undertake an auction should be a matter for the Member State concerned. The appropriate design of the auction would also depend on the circumstances and therefore should also be decided by the State concerned. As a safeguard, the design of the auction should be subject to approval by the Commission, to ensure that it was consistent with the Regulation, would not disrupt the slot allocation process used at other airports, and did not infringe EU law in any other way, for example by unfairly favouring specific carriers or types of carrier.
- 12.30 The analysis undertaken for this study indicates that, if mixed mode operation was introduced at Heathrow (allowing an increase in slot capacity of 10%), the number of passengers transported would increase by 10.6% if the new slots were auctioned, compared to 8.4% if the slots were allocated under the current administrative allocation and 8.7% if the slots were allocated by an administrative mechanism but with the new entrant rule revised as we have proposed. Over time, the differences would reduce as a result of secondary trading. **Therefore we recommend that the Regulation be amended to allow newly created slots to be allocated by auctions; where an auction was undertaken the new entrant rule would not apply.**
- 12.31 We also recommend that the Regulation allow for auctions of pool slots in the rare cases where a large number become available at a congested airport, for example, as happened at Orly after the bankruptcy of Air Lib. It would be relatively difficult to do this within the constraints of the existing administrative allocation system but the Regulation should allow this if the State concerned was able to demonstrate that it could do so successfully.

Withdrawal of grandfather rights and auctions of slots

- 12.32 At some congested airports where secondary trading does not currently occur, particularly Paris Orly and Düsseldorf, there is some evidence that slot allocation is

economically inefficient, in that relatively small aircraft are operated, often by the main based hub carrier. This reduces the number of passengers that can be transported within the limited capacity and therefore leads to higher fares. In principle, secondary trading should address this, by giving these carriers an incentive to sell the slots if they cannot use them more efficiently. However, this depends on these carriers being willing to sell the slots to potential competitors. An alternative would be to withdraw grandfather rights and auction the slots, although if the main based carrier was unwilling to sell slots it might also be willing to buy them in the auction if this prevented competitors from acquiring them.

- 12.33 Withdrawal of grandfather rights and auctions of the slots would be likely to generate significant practical problems, primarily due to the complexity of auctioning a large number of heterogeneous assets (slots), the need to coordinate auctions at multiple airports which would be inter-dependent, and the consequent instability in airline scheduling. Auctions of slots would not be comparable to auctions of other assets, such as radio spectrum, due to their complexity. These problems could be partly reduced if withdrawal of grandfather rights was restricted to a small number of the most congested airports, as this would avoid the need to coordinate multiple inter-dependent auctions, although the auctions would still need to be coordinated with the administrative allocation undertaken in parallel at other airports and the impacts on airline scheduling would remain.
- 12.34 We have tested the economic impacts of withdrawal of grandfather rights at Heathrow and Orly. This indicates that:
- At Heathrow the auctions have limited benefits, because slot allocation is already quite economically efficient (in that there are very few flights with smaller aircraft at peak times) due to secondary trading. The limited benefits of the auctions are far offset by the negative impacts on airline scheduling and consequent increases in operating costs.
 - At Orly, the auctions could have much greater benefits, as there is no secondary trading – although if secondary trading was introduced it could achieve similar effects. The negative impacts of withdrawal of grandfather rights are also much less at Orly than at Heathrow, because there are few capacity constraints at the airport other than an annual administrative slot cap, and therefore airlines should be able to use whatever slots are obtained through the auctions in the most efficient possible way.
- 12.35 Secondary trading should achieve most of the potential benefits of withdrawal of grandfather rights and auctions, without the negative consequences. **Therefore we recommend that secondary trading should be permitted at all EU airports before withdrawal of grandfather rights is further considered.**

Amendments to the new entrant rule

- 12.36 The new entrant rule has been ineffective at encouraging sustainable competitive air services: even at the busiest airports, many slots allocated under the new entrant rule are only retained for 1-2 years, and are then either traded or returned to the pool. Even at some very congested airports such as Gatwick, Düsseldorf and Frankfurt less than 50% of slots are allocated under the new entrant rule, partly due to a lack of requests. The utilisation of new entrant slots is significantly less than the utilisation of other

slots, although in other respects new entrant slots are not used significantly differently (aircraft sizes and types of services operated are similar to other newly allocated slots). By encouraging allocation of small numbers of slots to a large number of carriers, the current new entrant rule has led to fragmentation of the schedule at congested airports.

12.37 The impact of the new entrant rule would be significantly reduced if secondary trading and auctions for new capacity were introduced. However, it would continue to have some impact, for example when slots at a congested airport are allocated following the insolvency of a carrier. **Therefore, we recommend a number of changes to the new entrant rule to enable slots to be allocated to carriers which would be better placed to provide commercially viable competing services.** The main changes that would achieve this are:

- allow an airline to be classified as a new entrant on an intra-Community route where it operates less than four daily rotations on the route (instead of two as now);
- allow an airline to be classified as a new entrant on a non-Community route where it operates less than two daily rotations on the route;
- remove the automatic classification as a new entrant for carriers that have less than 5 slots at an airport, and the priority given to carriers that meet this criteria as well as the other criteria; and
- replace the limitation on an air carrier being considered a new entrant if it has over 5% of the slots at the airport with a limit of 10% across the entire airline owning group (and possibly also any joint venture partners).

Local guidelines

12.38 The Regulation currently allows for local guidelines, but the scope of these is limited because the Regulation is quite prescriptive. We have considered a number of respects in which the Regulation could allow more scope for local guidelines, for example to address environmental, noise or regional accessibility objectives.

12.39 However, the Regulation already allows for local pollution and noise criteria to be taken into account by the coordinator if these are amongst the capacity parameters that apply to the airport. This already happens at some airports for noise, and although the possibility of taking into account local pollution appears to be unused at present, it is reasonable that it is available in case States impose local pollution limits on airports which impact traffic and therefore create a need for limited capacity to be allocated by the coordinator. Whilst the Regulation could also allow for global environmental objectives (minimisation of greenhouse gas emissions) to be taken into account, slot allocation would not be an appropriate or effective tool to address this; measures such as the Emissions Trading Scheme are likely to be much more effective.

12.40 More generally, we do not recommend allowing greater flexibility for local guidelines, because this increases the risk that Member States or regional governments try to interfere with the process of slot allocation to favour particular airlines or types of flights; all stakeholders claimed to support the principle of neutral, non-discriminatory slot allocation.

12.41 Whilst local guidelines could not be an effective tool to meeting regional accessibility

objectives, this is a significant issue at some airports, such as Heathrow, where the number of regional air services has reduced and is likely to continue to reduce. Two options could be pursued to address this:

- Governments could be permitted to reserve capacity at airports for regional services. This would be similar to the position before the 2004 amendment to the Regulation.
- Regional authorities could be permitted to buy slots on the secondary market for specific routes, enabling them to achieve flights from congested hubs to regional airports whilst covering the congestion costs of doing so.

12.42 Neither of these solutions would be consistent with the objective of ensuring economically efficient use of capacity, and any quantified economic assessment would show these to have a negative impact. However, they would be the only way of meeting the objective of ensuring regional accessibility is maintained, and therefore it is essentially a political judgement as to whether this is appropriate.

Slot utilisation

12.43 Although slot utilisation is high (over 95%) at the most congested airports such as London Heathrow and Paris Orly, it is significantly lower at other airports at which demand exceeds capacity throughout the day, such as London Gatwick. The Regulation currently requires that slots should be utilised 80% of the time or more if historic preference is to be retained, except in certain (quite narrowly defined) circumstances, but this appears to allow significant margin for incumbent carriers to retain slots that they do not use.

12.44 However, this criterion is less generous to incumbent airlines than it appears, because the Regulation states that the calculation has to be performed separately for each individual series of slots. Therefore, a carrier should lose a series of slots if a particular flight on a particular day of the week falls below 80% utilisation, even if overall the utilisation achieved by the carrier is much higher. We have identified that some coordinators do not follow this approach, and we recommend that the Commission should monitor this and where appropriate use its powers to encourage them to do so.

12.45 **In order to ensure that capacity is fully utilised at the most congested airports, we recommend that the utilisation threshold should be increased to 85%.** We do not recommend that this should be increased to 90% or higher, as this would lead to withdrawals of some series of slots for reasons outside airlines' direct control, due to operational cancellations (for example due to technical problems with aircraft). However, the benefits from increasing the utilisation threshold are relatively small, as there are few series of slots which come close to the 80% threshold; our analysis indicates that low utilisation of slots, where this occurs, primarily results from a small proportion of series not being used at all. Some of the other proposals we have made, including the clarification that slot reservation fees are not inconsistent with the Regulation, that penalties be introduced for late handback, introduction of secondary trading at all airports, and the proposed improvements to Article 14, should also help to improve slot utilisation.

- 12.46 Any increase in the utilisation threshold would need to be accompanied by:
- an increase in the minimum length of a slot series, to ensure that short series were not withdrawn as a result of a cancellation of one flight; and
 - clarification of the circumstances under which coordinators may allow ‘fill in’ of gaps in series of slots, for example where a slot is returned before the slot return deadline due to a public holiday.
- 12.47 Even if it is decided not to increase the utilisation threshold, the circumstances under which ‘fill in’ of gaps in series should be clarified, because this is unclear in the current Regulation and is one of the main areas of differences of opinion between coordinators. There would also be some benefit in extending the minimum length of a series of slots beyond the current level (5 slots). At present, where airlines have historical rights to short series of slots during peak periods, usually peak summer, this can prevent other airlines from launching year-round services which would be a more efficient use of limited capacity.
- 12.48 **We recommend that the minimum series length should be extended to 15 slots for the summer season and 10 slots for the winter season**, but as it can be appropriate to have shorter series lengths at some airports, the Regulation should specify that airport coordination committees may adopt a lower minimum. Our analysis indicates that extending the minimum length of a series of slots would have more significant benefits than increasing the slot utilisation threshold.

Other recommendations

- 12.49 In addition we recommend some minor changes to address issues identified through the legal review, where references appear to be out of date or inconsistent:
- The references to Regulations 2407/92 and 2408/92 in Articles 2(e), 2(h), 9.1, 9.2, 10.4(c), 10.4(d) and 10.6 should be replaced with references to Regulation 1008/2008.
 - Article 8(b) refers to Articles 81 and 82 of the Treaty, which should be replaced with Articles 101 and 102 of the Treaty on the Functioning of the European Union, and Regulation 4064/89 on concentrations, which should be replaced by Regulation 139/2004.
 - Article 3(4) specifies should refer to “other air operators” using the airport instead of “general aviation”.
 - Article 8b states that transfers of slots required pursuant to competition law can only take place without monetary compensation; this should be deleted as it is not consistent with the decision made by the Commission in the British Airways-American Airlines-Iberia case.

Summary of how recommendations address identified problems

12.50

12.51 Table 12.6 summarises how the recommendations of the study map against the problems that have been identified with the operation of the Regulation.

TABLE 12.6 SUMMARY OF ISSUES IDENTIFIED AND RECOMMENDATIONS

Category	Issue identified	Recommendations
Operation of coordinator	Some aspects of how coordinators structured could be interpreted to limit the independence of the coordinator	Require organisational rather than functional separation of the coordinators from interested parties. Require that funding of coordinators be shared between airlines and airports Commission should use powers to encourage States to comply with existing obligations
	The extent to which information is publicly available on capacity parameters, slot availability and allocation, and local rules varies	Require all coordinators to publish online capacity parameters and local rules; at start of every season, summary of slot requests and allocations (by hour); and at end of every season utilisation by airline; and to produce and publish an annual report
	Non-availability of historical data limits scope for investigations of slot market by regulatory authorities	Require coordinators to keep data on slot allocations and requests for at least 5 years
	Coordinators can face financial problems if main contributing airline also does	Require that funding of coordinators be shared between airlines and airports States to have ultimate obligation to ensure coordinator adequately funded
Slot misuse and abuse	Late handback of slots continues to be an issue at some airports, leading to under-utilisation of scarce capacity	Regulation should require penalties are available for late handback and make clear that slot reservation fees are not incompatible with the Regulation if they are revenue neutral
	Ex ante monitoring of consistency between flight plans and slots does not happen in all States	Clarify that the coordinator should provide information on cleared airport slots to the air traffic management authorities if requested, and a flight plan should only be rejected after consultation with the coordinator
	Some States have not introduced sanctions as required by Article 14	Commission should use powers to encourage States to comply with existing obligations
	Slot monitoring and enforcement could be more effective	Article 14 to be amended to clarify and extend coordinators' powers and scope of enforcement
	In some States imposition of penalties is slow and distant from coordinator	Coordinator to be informed of the outcome of each case referred to national authorities
Business aviation	It is difficult for business aviation to obtain slots at congested airports	No change – would not be consistent with efficient use of constrained capacity, and Member States already have other options by which they can reserve capacity for business/general aviation
Slot allocation	At some congested airports administrative mechanism has led to inefficient allocation, as scarce capacity is used for flights with small aircraft	Regulation should clarify that secondary trading through slot transfers may take place at all EU airports Allow auctions for newly created slots
	Secondary trading not transparent, particularly at non-London airports	Explicit authorisation for secondary trading facilitates improved transparency Require airlines to disclose transfers to coordinator and coordinator to publish list each season Coordinators to establish bulletin board on which

		airlines can advertise willingness to trade
	Competition authorities concerned secondary trading could increase concentration	Prohibit anti-competitive restrictive covenants Require airlines to disclose transfers to coordinator and coordinator to publish list each season Coordinators to establish bulletin board on which airlines can advertise willingness to trade
Local guidelines	Some stakeholders believe that there should be more flexibility for local guidelines	No change – Regulation sufficiently clear. More flexibility would increase risk of non-neutral/discriminatory slot allocation.
New entrant rule	New entrant rule leads to fragmentation of schedule and is not appropriate where there are a large number of slots to allocate (if capacity expanded)	Revise new entrant rule to allow slots to be allocated to carriers with larger holdings Allow auctions for newly created slots
	Even at some congested airports such as London Gatwick, utilisation is still low	Increase utilisation threshold to 85% Introduce penalties for late handback and clarify that slot reservation fees permitted Introduce secondary trading at all EU airports
Utilisation and 80-20 rule	Different interpretations between coordinators on when 'fill in' of gaps in series permitted	Regulation to state (and limit) when fill in permitted
	Some coordinators do not properly enforce current requirements	Commission should monitor and use powers to encourage States and coordinators to comply with existing obligations
	Short series of slots in peak summer can block capacity year-round	Extend minimum length of a series of slots to 15 (summer) and 10 (winter). Allow exceptions by local rules.

12.52 The proposed changes address most of the issues with the Regulation. The issues that are not addressed are the issues of access for regional service and business aviation. These are not addressed because, at capacity constrained airports, there is no way of achieving this access without displacing other flights that are a more economically efficient use of scarce capacity. The only way to provide this access whilst not displacing other flights would be to increase capacity.

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