

European Competition Authorities



Air Traffic Working Group

PROGRESS REPORT OF THE
AIR TRAFFIC WORKING
GROUP ON SLOT TRADING

Updated

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PROGRESS REPORT OF THE ECA WORKING GROUP ON SLOT TRADING

Executive Summary

This paper represents the combined work of the European Competition Authorities' (ECA) Air Traffic Working Group (ATWG) on the likely impact of commercial mechanisms for slot trading on competition. This work draws on DG Tren's examination of this and other issues, primarily through the report from NERA¹ and the consultation document², which proposed the introduction of secondary trading.

It has involved:

- The preparation of a discussion paper by the UK's Office of Fair Trading working in conjunction with the UK's Civil Aviation Authority.
- Discussions at the meetings of the ECA ATWG.
- Responses received from Member States to questions sent out by the UK's Office of Fair Trading.

This paper summarises the work of the ATWG on commercial mechanisms for allocating airport slots. It outlines areas of consensus and discussion within the Working Group and addresses the following issues:

- If commercial mechanisms for slot trading are introduced what, if any, competition issues are likely to arise?
- How well placed is current competition law to address these issues?
- To the extent that any gaps exist, what additional safeguards could/should be introduced?

Progress to date has identified the following key issues:

- Possible concerns relate to: (i) the acquisition of dominance (on either a route or at a hub); and (ii) the distortion of competition through a refusal to supply or restrictions on sales of slots.
- Identification of issues regarding the ability to tackle these under normal application of competition law namely: merger controls; Article 81; and Article 82 of the EC Treaty³ (and parallel domestic legislation).

The ATWG considered that:

- **There are some simple trading rules which could go a long way in minimising potential concerns. Thus a prohibition on restrictive covenants**

¹ See NERA (2004), "Study to Assess the Effect of Different Slot Allocation Schemes: A Final Report for the European Commission, DG Tren".

² Commission of the European Communities, "Commercial slot allocation mechanisms in the context of a further revision of Council Regulation (EEC_ 95/93 on common rules for the allocation of slots at Community airports", September 2004.

³ Id. Art. 53, 54 EEA agreement.

attached to slot trades and greater transparency through publishing information on trades would be beneficial.

- **Beyond this, there is a danger that complicated rules applied to all airports where trading occurs may be overly onerous on some whilst providing little protection for others. Consequently, devolving the potential for investigations of local conditions and appropriate safeguards (if required) to NCAs would seem the most practical way of addressing this. Furthermore, DG Comp could take on an active role through a pan-European review if required.**

1 Introduction

- 1.1 The idea of introducing commercial market mechanisms for the allocation of airport slots has been raised several times as a potential means of ensuring scarce airport capacity is allocated efficiently. In September 2004, DG Tren issued a consultation document⁴ which put forward a proposal for how to implement secondary trading of airport slots. The ATWG of the ECA has been considering the issues raised by DG Tren and this paper represents the current output of the ATWG.
- 1.2 The main focus of the group has been on identifying what competition concerns might arise **if commercial mechanisms for slot allocation were introduced**. As such the Working Group has distinguished between the need for market mechanisms and potential concerns arising from market mechanisms. This paper is focused on the latter. It considers the extent to which any concerns could be tackled through the normal application of competition law and assessing whether any further intervention in trading may be beneficial. This focus reflects the expertise of the National Competition Authorities in the application of competition law to the aviation industry.
- 1.3 There are wider considerations which have not been addressed by the ATWG. For example, the impact of a revised regime on slots used for regional development purposes would need to be considered. This is not directly a competition issue arising out of secondary trading and consequently no view has been formed on this issue.
- 1.4 It is worth emphasising at the start that slot trading would only arise at capacity constrained airports, and the extent to which Member States have such airports varies. The NERA report for DG Tren identified seven airports that are currently constrained throughout the day and fourteen with capacity constraints during peak periods only⁵. Nevertheless, even where a Member State's airports are not congested, they will have flights originating within their country destined for congested airports elsewhere in Europe and thus it is recognised this is an important issue for all Member States.
- 1.5 This paper provides a summary of the work previously undertaken by the working group and has incorporated amendments arising from the discussion of the Heads of the ECA on 18 April 2005. The main issues can be broadly divided into:
- potential competition concerns arising from slot trading;
 - the ability of current competition laws to address any potential competition concerns that may arise; and
 - possible methods of addressing competition concerns which remain.
- 1.6 In examining these issues a distinction can be drawn between secondary trading of airport slots and commercial mechanisms for allocating primary rights to airport slots. This paper is focused mainly on secondary trading given (i) its primacy in the proposal by DG Tren and (ii) introducing commercial mechanisms for primary rights would require secondary trading in order to maintain the efficiency objectives over time⁶.

⁴ Ibid 2.

⁵ See NERA (2004), Table 3.2, page 24.

⁶ Whilst primary trading would distribute slots to those who value them most initially, the airline that can make most efficient use of a slot may change over time. The ability to transfer an existing slot is enhanced by secondary trading. Consequently secondary trading may ensure such rights move to their most efficient owner.

- 1.7 It is also recognised that there are primary mechanisms for allocating slots. Thus, for example, a rolling auction of all slots at capacity constrained airports is one option. It is prudent that if secondary trading is introduced this should not (in itself) preclude the introduction of alternative primary allocation mechanisms in the future. Airlines purchasing slots should be aware that the right to move to a different allocation mechanism is retained and the purchase of a slot does not preclude this.
- 1.8 Primary mechanisms raise additional issues which have not been addressed by the ATWG to date. These include assessing the competitive impact of introducing such mechanisms and whether any substantive legal obstacles exist to introducing such mechanisms. This would require further work from the ATWG.

2 Potential competition concerns arising from slot trading.

- 2.1 At congested airports, incumbent airlines effectively control access to existing slots through grandfather rights. Slots are an important input into the downstream provision of air travel services, without a slot an airline cannot fly into or out of a congested airport. Consequently an airline controlling a significant proportion of slots at a congested airport could restrict its rivals' ability to compete on point-to-point routes (or to provide services to or from an airport in general). It is worth bearing in mind here that access to a particular slot may not in itself be a sufficient pre-requisite to start a competing service, a series of lined up slots allowing an airline to offer a complete air travel service to a major destination may be required to offer a significant constraint on a hub airline.
- 2.2 The introduction of slot trading may offer leeway for such hub carriers to increase their slot holdings and potentially create or enhance any market power at hub airports.
- 2.3 If a hub carrier were to obtain a dominant position in slots at its hub airport it may use all the slots it owns itself. It may choose to do this, at least in part, to restrict the extent to which other airlines are able to offer competing services from that airport. This would leave other carriers facing significant barriers to entry and expansion and, in the extreme, risks foreclosing the market to competitors altogether. Such concerns have been raised from evidence of the impact of slot trading in the US⁷. A 2002 submission from the US Department of Justice's Antitrust Division concerning the allocation of slots has also raised this issue⁸.
- 2.4 Alternatively, a hub carrier may choose to sell some of the slots it owns. In which case, it may do so:
- at excessive prices by hoarding slots and thus raising the value of those slots which they do make available;
 - with clauses restricting their use so that the buyer cannot compete directly with the hub carrier on any key routes (through use of restrictive covenants or non-compete clauses);⁹
 - only at unattractive times;
 - only to certain airlines, specifically airlines that are not considered to be strong competitors;
 - higher prices to airlines that are considered to be strong competitors;

⁷ The US introduced secondary trading of "grandfathered" slots to four airports in 1986, which led to an initial surge in trading but then quieted down. There is some evidence that this allowed greater concentration of hub airlines due to their higher valuation of slots. An issue that has arisen here is differentiating between increased slot holdings by hub airlines due to efficiency reasons and for anti-competitive reasons.

⁸ Docket No. FAA-2001-9854, Notice of Alternative Policy Options for Managing Capacity at LaGuardia Airport and Proposed Extension of Lottery Allocation, Comments of the United States Department of Justice before the Federal Aviation Administration Department of Transportation, June 2002.

⁹ A requirement not to use the slot to compete on a particular route (e.g. LHR-Frankfurt) may not be sufficient. An airline could use the slot to release another slot, which it would then use to provide an additional service to Frankfurt. To make the restriction watertight an airline would need to include a broader non-compete clause along the lines of "no new flights on LHR – Frankfurt" route.

- on condition that the airline uses other services that the hub carrier provides e.g. ground handling services. (This is known as tying).
- 2.5 Such a hub carrier could also choose to lease rather than sell some of the slots it owns, in which case similar concerns to those in paragraph 2.4 could arise. In addition leasing, rather than selling, may also limit the rivalry between such airlines if there is uncertainty about whether the lease would be renewed and under what conditions. This will be particularly true if the lessee believes that its current behaviour may affect future terms and conditions in slot leases. Not all of this behaviour is without cost to a hub airline since it potentially decreases the value of the slot (whether leased or sold) and thus we should not imply this will automatically follow from slot trading.
- 2.6 Overall, whilst introducing commercial mechanisms for allocating slots offers pro-competitive and efficiency benefits, additional competition issues may arise. The question then is to what extent these could be dealt with under existing competition law.
- 2.7 The ATWG has considered these issues and the possible concerns arising from slot trading relate to: (i) the acquisition of dominance (on either a route or at a hub); and (ii) the distortion of competition through a refusal to supply or restrictions on sales of slots.**

3 The ability of current competition laws to address any potential competition concerns that may arise.

3.1 In terms of EC competition law, there are three potential routes: the ECMR; Article 81 and Article 82¹⁰. There also exists national competition law which generally reflects the three areas of EC competition law identified above but can also differ in certain respects. The ATWG identified areas where the ability of these policy tools to address the concerns raised above appeared limited. To summarise:

The ECMR/national merger control legislation

3.2 It appears that there are limitations in the ability for merger controls to address these issues. In particular:

- it is likely that slot trades would not qualify under either European or National merger control laws either because they would not meet the definition of what comprises a merger situation or because of the small value associated with individual trades (they may be *de minimis*);
- even if slot trades were to qualify, it would be problematic to address all the issues highlighted above through merger control. This is because an individual slot can be used for a range of routes and thus the sale of a particular slot does not automatically identify which point-to-point services will be affected. This makes it difficult to link individual slot trades to a particular downstream market.
- the small increments involved in individual slot trades may not raise significant issues whereas the cumulative effect of trades over a long period of time may; and
- merger control was not designed and never meant to address pre-existing positions of significant market power and thus cannot address the issue of hub carriers refusing to trade or doing so at excessive prices or on discriminatory terms and conditions.

3.3 For some member states, namely Italy, Hungary and Finland, there remains the possibility that some slot transactions could qualify as mergers. As such merger control may, to some extent act as an ex-ante control of anti-competitive slot transfers.

Article 81

3.4 It appears that Article 81 may be well placed to address explicit market sharing terms written into slot trades but would not be well placed to address the other issues listed in paragraph 2.4 such as sale only to airlines not seen as strong rivals. It was also unclear whether a slot trade would be an “agreement” or “concerted practice” and if they are not they would anyway fall outside Article 81¹¹.

3.5 In addition:

- it will be difficult to link slots to particular downstream markets because slots can be used for a range of routes and thus upstream conditions applied to a particular slot does not automatically identify which point to point airline services will be affected;
- individual slot trades are unlikely to have an appreciable effect on competition on their own and may therefore be *de minimis*; and

¹⁰ Id. Art. 53, 54 EEA agreement

¹¹ Article 81 of the EC Treaty applies to agreements and concerted practices of firms.

- Article 81 will not address issues of slot hoarding and may not be able to address issues such as restrictive covenants attached to slot trades which fall short of explicit market sharing but nevertheless reduce the process of rivalry between airlines.

Article 82

3.6 Article 82 may apply if a hub carrier is found to be dominant in a “slot market” at an airport. However the ATWG identified several difficulties in the practical appliance of Article 82 to the concerns raised if the airline is using all its slots. This is primarily because of difficulties in considering such cases as a refusal to supply slots at a particular airport (or group of airports):

- slot hoarding in the upstream trade of slots may be difficult to link to downstream effects on air travel services and this may result in an excessively high threshold to justify intervention. As a result, the threat of an Article 82 investigation may have a negligible deterrent effect against such conduct;
- if a hub airline is using the slots it owns (for example through babysitting such slots) it may be able to claim that it has an objective justification (and thus a legal basis for such refusals to trade). In particular it can be difficult to determine when a slot is being inefficiently utilised especially where there may be a future options value¹² associated with an airport slot. Thus, distinguishing between legitimate use and anti-competitive refusals to supply will be difficult; and
- demonstrating that the slots are indispensable, which means that there are no alternative facilities and that they cannot be replicated. This is likely to require that it is demonstrated that no other airport is a substitute; that an airline could not obtain the slots from another airline and that the hub airline should be required to sell some of its slots even if this restricted its own ability to compete.

3.7 In addition Article 82 is meant to address abuse of a dominant position and would be poorly placed to address any gradual increase in market power (through say purchasing of more slots).

3.8 There is an additional point that can be made in respect of both Article 81 and Article 82 in addressing potential concerns. Article 81 and Article 82 cases can be lengthy and costly. Given the doubts over the applicability of these controls to address the issues raised, the hub airline might well expect they would not and thus is less likely to alter its behaviour. To the extent other mechanisms which are equally or more capable of addressing these issues, they should be considered.

¹² The option value of a slot represents the potential future value of the slot presently held. If slots were freely available this would be the difference between the current and future sale value given a slot can always be purchased later. The extent of trading in slots to some extent determines the availability of slots, a low volume of trade increases the chances that a slot cannot be obtained at a later date and this will increase the value of holding the slot now.

Market/Sectoral Investigations

- 3.9 Many of the member states NCAs of the ATWG have or expect to have powers to carry out a wide ranging sectoral investigation. These powers enable NCAs to consider conduct or features of airport slot trading which may raise the competition issues considered above.
- 3.10 For most the main potential restricting factor would be the lack of any remedial powers¹³. The NCAs could, however, make recommendations to either Government or the European Commission in regard to any investigation concerning slot trading(s).
- 3.11 This type of investigation could occur in response to complaints or concerns arising from slot trading in the same way Article 82 would normally apply, it could occur prior to slot trading to determine the extent of any trading controls or it could occur as a pre-set or EC review an appropriate time period after trading has began as a review process.
- 3.12 An investigation in response to complaints will be able to address all the issues that potentially arise and can deal with the effect of trading over time. Thus this would act as an *ex-post* check against potentially adverse effects of trading. It would be important that this is backed by effective remedial powers.
- 3.13 An investigation prior to introduction of slot trading would provide a wide ranging examination of the pre-existing competitive situation at an airport (or group of airports); judge the likely effect of the introduction of slot trading; and allow a thorough consideration of what (if any) additional safeguards might be required given the competitive situation and the future introduction of slot trading.
- 3.14 These powers could be backed by the option for the EC to undertake a pan-European review to examine the effect of the introduction of slot trading including what benefits and possible detriments have occurred and recommend whether or not adjustments to the trading mechanism and other safeguards are required.
- 3.15 **Whilst the ATWG was broadly supportive of the concept, currently not all NCAs have the powers or the resources to undertake such a review. Consequently to implement this approach would require the EC to mandate such powers in respect of EC NCAs.**

Conclusions

- 3.16 The overall ATWG consensus was that European competition law and its domestic equivalents do not provide an adequate safeguard to the competition issues that may arise under slot trading.
- 3.17 The application of Article 81 and 82 is intended to correct, and where appropriate, penalise infringements of the competition rules *ex-post*. In other words, the enforcement of Articles 81 and 82 are essentially backward looking instruments, and

¹³ One exception is the UK where under the Market Investigation powers, the Competition Commission has wide ranging remedial powers including the ability to make orders for a positive obligation to divest assets. Please see Office of Fair Trading, "Market investigation references: Guidance about the making of references under Part 4 of the Enterprise Act", 2002 and Competition Commission, "Market Investigation References: Competition Commission Guidelines", June 2003.

they may not always prevent in advance agreements or conduct that would lead to significant competition problems. Where certain types of behaviour would clearly fall foul of Articles 81 and 82 the legislation may have some *ex-ante* effect through its deterrence of such conduct. In respect of slot trading this appears unlikely. Furthermore, the time-scale for correcting problems caused by infringements may be quite lengthy. This may be the case *a fortiori* in cases where establishing an infringement to the requisite standard may take some time, owing to market definition challenges, for example. It may be preferable in addition to provide additional safeguards to prevent such problems arising *ex ante*.

- 3.18 In certain circumstances, this is where the ECMR would step in. However, this is designed to capture large transfers of ongoing business rather than the sale of individual assets such as slots. Access to airport slots is essential for companies to offer a passenger air service and whilst each individual transaction is small, it is plausible that over a longer time frame, a series of such transactions (or lack of) could have a material effect.
- 3.19 The ability to carry out a wider ranging investigation seems best placed to address the issues raised. For many NCAs powers already exist to carry out such investigations but few have any remedial powers in this respect.
- 3.20 In these circumstances it is worth considering whether and if so how new market rules should be implemented to meet these circumstances.

4 Potential means of protecting and promoting competition with the introduction of commercial mechanisms for slot allocation

4.1 Given that there was broad agreement about the potential competition concerns arising from slot trading, the main area of further work has been identifying the pros and cons of potential means of addressing these issues. The ATWG have put together a table, contained in annex 1, highlighting the possible options for controls.

Broad issues

4.2 There are four broad methods to tackle these issues that are not necessarily mutually exclusive:

- the design of the trading mechanism;
- a mechanism to allow for *ex-ante* evaluation of individual slot trades;
- a mechanism to allow for *ex-ante* evaluation of groups of slot trades on a broad market investigation basis; and
- a wider ranging sectoral competition assessment of slot trading as a whole which could occur before the introduction of slot trading.

4.3 These also need to take into account the potential effects on the volume of slot trades (liquidity). Some options may entail greater safeguards but an adverse effect on liquidity which in turn reduces the potential benefits of introducing slots trading. In general the greater the liquidity, the greater the scope for reducing barriers to entry and expansion.

4.4 The question then arises as to whether there are any simple rules that could be included to prevent potential competition issues arising and for which the benefits would clearly outweigh any additional distortions created. The design of the trading system has a role to play here. It has the potential to limit what potential concerns can arise and to the extent it can prevent them adds certainty and reduces the costs associated with such conduct. Care must be taken not to over-engineer the system given the potential for controls and restrictions on slot trading to reduce the incentive to sell and buy slots. Nevertheless there is potential for a carefully designed set of procedures and controls to have a minimal effect on the volume of trade (and in some instances to promote trade).

4.5 Within the trading mechanism, there is the possibility of a regulatory fall back position whereby if it is found that slot trading has negative consequences for competition, more direct controls can be introduced. The ATWG found there is also room for improvements in the current administrative allocation mechanism.

4.6 A system of *ex-ante* investigation of individual slot trades would likely be some form of the current merger control. In practice this may be burdensome, even if only those trades which are potentially problematic were investigated (e.g. only trades with carriers representing a significant proportion of slots at a congested airport). This is also likely to be subject to the same concerns highlighted in paragraph 3.2 about the difficulty of identifying a significant anti-competitive effect from an individual slot trade.

4.7 A system of *ex-post* investigation of competition at a particular congested airport could potentially offer benefits. It would allow an assessment of the benefits (or detriments) of a particular airline (or group of airlines) holding a significant share of slots. It could also have the flexibility to address all of the potential issues that arise.

It would, however, not prevent potential competition concerns arising in the meantime. Although the ability to investigate *ex-post* in this manner may well have some *ex-ante* deterrent effect against such conduct.

- 4.8 It may also be possible to carry out such an investigation prior to the introduction of slot trading. In which case the object of such an investigation would be to determine what are the appropriate safeguards (if any) to put in place. This would have the advantage of being based at particular airports (or groups of airports) and can thus take into account local circumstances to provide a more tailored solution. In addition the EC has the option to carry out a sectoral review across Europe at a later date to examine how successful (or not) the introduction of slot trading has been.
- 4.9 The DGCCRF of France noted that the first step in improving the competitiveness of slot allocation at capacity-constrained airports is to revise the current regulation.
- 4.10 The Bundeskartellamt proposed that a further measure could be implemented whereby consideration is given to a more efficient administrative allocation of slots. This could be implemented as a fall back position if secondary trading in slots results in significant concerns arising or as an alternative to the introduction of commercial mechanisms. The main points to arise under this proposal are introducing a congestion fee element to airport fees; introducing additional measures to improve the quality and quantity of slots returned to the pool and ensuring the independence of the slot coordinator; and stipulating minimum aircraft size for peak slots to discourage babysitting of slots. A fuller consideration of these issues is contained in Annex 2.
- 4.11 Taking these into account the attached table lists some of the pros and cons of specific proposals. In this respect it is worth noting that different approaches may be appropriate at different airports so only broad pros and cons are included without an overall judgement on their desirability at any airport.

The analysis of the Air Traffic Working Group

- 4.12 Most participants felt there were problems with the current administrative arrangements for slot allocation. However, the ATWG has been primarily focused on the issues arising if commercial mechanisms are introduced which have been discussed earlier. This has included discussing the merits of the DG Tren proposal for implementation.
- 4.13 The DG Tren proposal within their consultation document broadly proposed the following¹⁴:
- Secondary trading should be introduced
 - Current system of administrative allocation of pool slots retained
 - Slots should be advertised for sale through the slot coordinator and there should be a requirement that slots are sold to the highest bidder
 - If insufficient slots are traded at an airport in a given time period, a pre-determined proportion of slots at that airport should be confiscated from existing airlines and reallocated, perhaps, administratively (reallocation proposal)

¹⁴ Ibid 2.

4.14 The work of the ATWG on the broad proposal outlined by DG Tren has included discussion of the potential issues in relation to whether this does represent an efficient way of addressing potential competition concerns. These are presented below.

- The requirement to sell slots to the highest bidder may adversely affect the incentives to sell slots, due to its incompatibility with more wide ranging transactions which may include swaps of slots for slots plus cash to reflect the relative value of slots being transferred.
- It is not clear how the system would be able to cope with counter-offers or whether commercially sensitive information will need to be published or whether this system is compatible with a scheduling timetable.
- This leads to an overall concern that the combined effect will be to reduce rather than enhance slot mobility.
- The reallocation proposal for grandfathered rights may be easy to circumvent by largely artificial trades in low value slots to meet any threshold. Nor is it clear that an administrative reallocation mechanism is a more efficient approach to auctioning such slots.
- Placing a cap on slot ownership is a very blunt instrument which could have unintended adverse effects. For example, for hub airlines, this may represent a hurdle to the introduction of new air travel routes. Also this would not address the issue of slot hoarding.

Conclusions

4.15 There may be some practical difficulties in the application of the existing competition law. Nevertheless we have identified some potential means to address these concerns.

4.16 Annex 1 layouts the main potential options and there pro and cons in relation to their impact. This is in terms of both the ability to address the issues raised and the potential impact on the effectiveness of slot trading.

4.17 The ATWG considered that:

- **There are some simple trading rules which could go a long way in minimising the potential for concerns to arise. Thus a prohibition on restrictive covenants attached to slot trades and some visibility in terms of publishing some information on trades would be beneficial.**
- **Beyond this, there is a danger that complicated rules applied to all airports where trading occurs may be overly onerous on some whilst providing little protection for others. Consequently, devolving the potential for investigations of local conditions and appropriate safeguards to NCAs would seem the most practical way of addressing this, if it is required. Furthermore, DG Comp could take on an active role through a pan-European review process.**

ANNEX 1: TABLE OF POSSIBLE OPTIONS IF COMMERCIAL MECHANISMS ARE INTRODUCED

Proposal	Pros	Cons
Design of the Trading System		
(1.1) Prohibition of restrictive covenants	<ul style="list-style-type: none"> • Clear cut prevention of possible abuse of slot trades and leases • Appears to impose little cost on industry 	<ul style="list-style-type: none"> • Limits freedom of action of airlines which may reduce incentives to sell slots altogether (or to important rivals)
(1.2) Prohibition on leasing of slots	<ul style="list-style-type: none"> • The threat of withdrawing a lease may be a way of reducing rivalry 	<ul style="list-style-type: none"> • Could reduce liquidity. Airlines may prefer to “babysit” slots rather than sell them to others, now that the option of leasing is removed. • May prevent third party slot holders who could facilitate competition
(1.3) Requiring pre-trade publication of prices (including a bulletin board)	<ul style="list-style-type: none"> • Makes visible the opportunity cost of slot holdings which may promote trade. • Would facilitate complaints about refusal to trade with specific airlines and generally facilitates a non-discrimination policy • May make it easier for non-obvious airlines to buy slots 	<ul style="list-style-type: none"> • May reveal commercially sensitive information, which may reduce the volume of trades • May facilitate collusion
(1.4) Requiring post-trade publication of prices	<ul style="list-style-type: none"> • Would still facilitate a non-discrimination policy • Could be ‘averaged’ or otherwise disguised to reduce sensitivity of information • This may also boost the volume of trades through highlighting the opportunity cost 	<ul style="list-style-type: none"> • Due to heterogeneity of slots, it may not be possible in practice to average information and still provide a meaningful indication of prices
(1.5) Requiring sale to highest bidder	<ul style="list-style-type: none"> • This would facilitate non-discrimination if trading is anonymous (otherwise the seller could always refuse to sell at all if the buyer is, for example, its main potential rival) 	<ul style="list-style-type: none"> • Prevents trades “in-kind” such as has occurred within London and reduces flexibility of trades • This may reduce the volume of trades • Does not address and may in fact encourage slot hoarding given hub carriers may have the highest valuation of slots
(1.6) Anonymous bidding	<ul style="list-style-type: none"> • Would help ensure non-discrimination 	<ul style="list-style-type: none"> • In practice it may be easy to determine who is buying or selling slots
(1.7) Requiring non-discrimination short of sale to highest bidder	<ul style="list-style-type: none"> • Would help ensure non-discrimination 	<ul style="list-style-type: none"> • It is not clear how practical this option is and its effectiveness would depend on the vigour of the regulatory body

<p>(1.8) Reallocation of grandfather rights if trades fall below a threshold</p>	<ul style="list-style-type: none"> • In principle could go some way to address the issue of slot hoarding but will depend on how significant a threat removal of slots is seen to be • Could erode the barrier to entry represented by grandfathered rights 	<ul style="list-style-type: none"> • Significant legal issues and ownership rights issues would ensure lengthy delay and may in the end prove impossible • Easy to artificially raise the volume of trades to a threshold without addressing the core issue of slot hoarding • Volume of trades may be low without any competition issues arising that would require such a reallocation • Would not prevent a hub airline subsequently repurchasing any lost slots through secondary trading. Prohibiting their ability to do this in practice will be difficult and could be counter-productive
<p>(1.9) Cap on slot holdings for specific hub airlines at capacity constrained airports.</p>	<ul style="list-style-type: none"> • Would prevent a hub airline increasing market power through secondary trading 	<ul style="list-style-type: none"> • Does not address the issue of slot hoarding • Where an airport is expanding, this does not prevent acquisition of slots to maintain market power • Unclear how to judge where the cap should bite. A detailed study would be needed to judge the appropriate level at a particular airport. This would also need to be reviewed on a regular basis.
<p>Ex-Ante Competition Controls</p>		
<p>(2.1) Ex ante evaluation of slot trades</p>	<ul style="list-style-type: none"> • Would close one of the “gaps” in general competition law in respect of slot trades 	<ul style="list-style-type: none"> • Merger control is poorly suited for addressing large numbers of small increments in shares of supply • Difficult to associate a single upstream slot trade to a downstream market
<p>(2.2) Requiring a sector investigation prior to introduction of slot trading (at congested airports)</p>	<ul style="list-style-type: none"> • Would allow a full assessment of how best to address the issues raised • Would allow introduction of tailored solutions for individual airports • For those airports with no issues, such investigations could be very quick and least burdensome 	<ul style="list-style-type: none"> • This will be time consuming and delay introduction of slot trading

Ex-post Competition Controls

(3.1) Requiring or allowing for a sector investigation post introduction of slot trading.

- Could learn from initial experience
- Could tailor remedies for each airport
- Would only be required where potential issues have arisen and thus whilst still being able to address issues

- May take some time in which issues could become costly to rivals

ANNEX 2: POSSIBILITIES FOR A MORE EFFICIENT ADMINISTRATIVE ALLOCATION OF SLOTS AT AIRPORTS

The current administrative slot allocation system used at airports has often been criticized as being an inefficient way to allocate airport capacities. Nevertheless, administrative allocation can offer scope for improvement in the use of airport capacities - without incurring possible disadvantages resulting from more market-oriented solutions. It is emphasized that from an economic point of view these solutions are second-best; nevertheless, they will improve the status quo. A regulatory reform approach could help to reduce opposition to reforms and to prevent retaliations by third countries.

A prerequisite for a good administrative system is to guarantee an independent status of the scheduling coordinator. The scheduling coordinator must act in a transparent and non-discriminatory way.

A starting point could be a reform of airport fees. For example, at Frankfurt airport the take-off and landing fees are calculated mainly on the basis of the maximum take-off weight of an aircraft. Weight-based fees do not have a coordinative function. Instead of or in addition to fees based on weight the charging of a time-dependent optimal "congestion fee" could be considered. In short, a congestion fee equal to the marginal cost which an additional flight by one aircraft implies for the other airlines would have to be imposed on each flight. In parallel, landing and take-off fees could be revised: Again, a determination of fees based on utilisation capacity rather than weight would be advantageous.

Another possibility worth discussing would be to raise the threshold from which unused slots lapse (currently 80 per cent). In addition, rather than a mere return of unused slots an additional fee for unused slots could be charged, thus raising opportunity costs of the disuse of scarce slots. Both solutions would provide incentives to actually use allocated slots or return them to the pool in time and thus make them available to other airlines.

The existing pool regulations also offer scope for improvement: often the pool only contains a few often unattractive slots. The attractiveness and number of slots could be increased by stipulating that a certain percentage of all grandfather rights are to be returned randomly to the pool. This would touch upon grandfather rights. Such a solution would be similar to the one proposed for secondary trade in the working paper of the Commission. This would make it easier for new entrants to stimulate competition at the respective airports by offering attractive connections. Another option would be to offer a higher share than the currently 50 per cent of the slots in the pool to new entrants.

To avoid "babysitting" (i.e. using small aircrafts to fill slots in order to reach the 80 per cent threshold) and thus increase the number of passengers carried, the stipulation of a minimum aircraft size for peak times could be envisaged, at least for grandfather right holders. New entrants could be exempted from this obligation for a limited number of seasons.

Finally, in many cases slots are returned too late to be used by other competitors and thus expire. By effectively enforcing a timely return of slots and where appropriate using the threat of sanctions the availability of slots in the pool could be improved.

The design of such an improved administrative allocation mechanism and its individual elements would, of course, need further discussion