

The Implementation of Secondary Slot Trading

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Civil Aviation Authority

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Summary and Conclusions

This paper presents the CAA's advice to the DTLR on the main issues involved in the implementation of a formalised system of secondary trading in slots. It follows a process of consultation with the industry, during which papers on three aspects of implementing a secondary trading system were issued.

Its key conclusions and recommendations are as follows:

- Legitimising a monetised secondary market in slots offers real potential to improve the efficient allocation of scarce airport capacity by confronting the users of grandfather slots with the true opportunity cost of slots held. There is widespread support in the industry for monetised secondary trading. This would provide existing slot holders with commercial options without threatening their continued use of slots already held. Furthermore, most consider secondary trading capable of implementation without adverse effects on the wider international slot framework.
- The challenges of clarifying “ownership” for the purposes of the primary allocation of slots need not prevent the definition of tradable rights in slots and legitimising a secondary market. In a competitive market slots ought to move to those who value them the most irrespective of initial allocation. This suggests the issue of “ownership” is a separate policy decision relating to the distribution of scarcity rents that ought to be distinguished from the objective of maximising the value of production from slots.
- In implementing a secondary market it will be important to define not only the actual rights which make up a slot but to establish the duration of these rights and the extent of any obligations that slot holders will need to observe. The fact that some secondary trading already occurs despite unclear rights and obligations should not be taken as evidence that such clarity is not necessary for an efficient secondary trading system. Clear legal rights and obligations will reduce the uncertainty and risk presently surrounding grey market trading and provide a clearer basis upon which private bargains may be struck and the efficiency of airport capacity allocation improved.
- The CAA is not convinced that in defining slot rights a time limit needs to be placed on the exercise of such rights. Within a secondary market participants ought to be free to trade rights of any duration thereby leaving it to the market to determine any limits on the duration of slot rights where it is efficient to do so.
- The CAA cannot see any reason why non-airline entities should be precluded from participation in a slot market. In many cases their involvement is likely to improve the efficiency of the market.
- A “light handed” approach to specifying how participants can trade, who they trade with, when they trade and what they can receive in return, as opposed to

the State formalising an “official market”, is most likely to minimise transaction costs and improve liquidity in the market. In particular, care should be taken not to preclude the development of organised central markets by intermediaries, slot leasing and spot trading, particularly whilst the market is still becoming established. An important step toward legitimising the secondary market may be for those best placed - prospective market participants - to take the lead in exploring all of the options for establishing efficient market structures for slot trading.

- The application of normal competition law- either by competition authorities or third parties- as opposed to ex-ante regulation appears capable of fully addressing any competition problems relating to the dominance of individual airlines or airline groupings, and is in many respects better placed to do so. European and UK competition laws, the UK Fair Trading Act and merger regimes all provide possible avenues to guard against the holding and possible anticompetitive effects of a dominant position in a slot or related market.

The paper also identifies certain areas that the CAA considers would benefit from further consideration, including:

- There clearly exists the potential to incorporate non-runway rights into the definition of a slot. However, the CAA recognises the effects of doing so at present are unclear and consider further work is required to establish the costs and benefits of doing so. The CAA recommends that consideration be given to the future ability to trade in slot components (either within or outside the slot Regulation) and options to address separation risks be explored.
- In order to protect the significant investment in slots further work is required on how slot rights can be effectively enforced in a way that is not solely reliant upon the voluntary system of cooperation presently observed within the industry.
- Whether a slot coordinator should be allowed to extend its role beyond merely a central registry service that confirms the feasibility of particular trades is unclear and may benefit from further investigation.
- Obviously the transparency of a secondary market in slots will be important. However further work may be advisable as to both the level and scope of transparency required for a well functioning, efficient slot market. In particular, the requirement for price transparency needs to be assessed against both the need to respect commercial sensitive information and also the quantification difficulties where non-monetary consideration is involved.
- Finally, an assessment is required on the effect of the EU slot block exemption on secondary trading which presently would exempt the application of the Article 81/Chapter I prohibitions on anticompetitive slot agreements.

Introduction

ERG last year agreed with the DTLR a programme of work it would undertake in order to assist the Government in its preparation for the anticipated review of the EC Regulation on slot allocation. At that time the timing and scope of the review was unclear. The Commission has now issued formal proposals for amendments to the Regulation. These are described by the Commission as technical amendments, but at first blush appear to be going some way beyond that. In particular, the proposals include clamping down on the current “grey” market in slots, contrary to an objective of increasing the flexibility of the present system through the introduction of market mechanisms. For the longer term, the Commission proposes to commission a study into market mechanisms as a prelude to more fundamental proposals for reform.

The CAA’s longstanding and publicly stated view has been that secondary trading in slots should be formally recognised and thereby made more transparent. At a practical level, this would at the very least help maintain and improve the flexibility of the system: while historical precedence remains at the heart of the slot allocation system, airlines, large or small, charter or scheduled, will need to exchange slots and money payments will be an inevitable part of the system if, as will often be the case, exchanges involve slots of significantly differing values. As well as recognising an existing reality, secondary trading would make explicit the economic principle that where a resource is scarce it should be put to the use of highest value. However, in a network-based industry with the structure of aviation, ERG believes it will be necessary to consider very carefully the precise way in which such a market-orientated approach should be introduced.

The work that ERG has been carrying out has therefore focussed on the practical aspects that would be associated with the introduction of a formal system of secondary trading in slots. To that end it published three consultation papers during the course of 2001. These were:

- Property Rights in Airport Slots
- Competition and Airport Slot Trading
- Secondary Trading in Airport Slots.

This paper draws together our views on the issues in these papers, taking into account the responses of consultees. It is intended to provide a structured analysis of the main issues involved in the implementation of a formalised system of secondary trading in slots. It presents the CAA’s advice to the DTLR in a number of areas, but also highlights those areas that it believes merit further consideration or work.

The Consultation

The CAA consulted widely with the industry on all three papers, including airlines, airports and slot-coordinators. A table of which organisations responded to each of the papers is set out below.

Property Rights in Airport Slots	Competition and Airport Slot Trading	Secondary Trading in Airport Slots.
Airport Coordination Ltd Air 2000 BAA BATA Bmi Britannia Airways British Airways Dotecon Guernsey Transport Board Manchester Airport Virgin Atlantic	Airport Coordination Ltd Air 2000 BAA BATA Bmi Britannia Airways British Airways British Airways Dotecon Manchester Airport Virgin Atlantic	Airport Coordination Ltd BAA BATA Bmi Britannia Airways British Airways JMC Airlines M-Co The Marketplace Co Manchester Airport

1. Tradable Rights in Airport Slots

The case for Defining tradable rights

- 1.1 It is a basic economic principle that where a resource is scarce it should be put to its highest value use. Logically, before this principle is breached, there should be powerful reasons for believing that any alternative approach being considered would be likely to result in a better outcome. From the perspective of economic efficiency, the aim would be to secure that increasingly scarce slots are used in a manner which best reflects the value air travellers in aggregate put on them, thus pointing towards market solutions wherever possible.
- 1.2 For a variety of reasons, airport access is not priced at market clearing levels and thus “slots” are scarce and have an economic value. However, unlike many other valuable resources, no clear tradable rights have ever been universally defined or formally allocated. As the value of UK slots (and hence the cost of any misallocation) is likely to increase in the coming years, the introduction of a legitimised secondary market offers a logical way to let the market determine how slots – the vast majority of which are grandfathered at present at congested airports such as Heathrow and Gatwick – should be held.
- 1.3 A problem with the present institutional slot arrangement is that, in the absence of an open and transparent market, slot users are not provided with the information or incentive needed to evaluate alternatives with a view to securing the most valuable use of slots for consumers. But the replacement of administrative rationing schemes with the greater use of market mechanisms is not a new idea. Many resources, including radio spectrum, oil exploration, fishing quota and water have all seen the introduction of tradable rights. Economic theory suggests that in a market free of distortion (including transaction costs) and where rights are well defined and secure, such a system will deliver economic efficiency.¹
- 1.4 However, prior to exposing slots already held by airlines to full market mechanisms in a secondary market it would appear advantageous to attempt to define precisely what rights are included within a “slot”. The alternative to such a “top-down” approach would be to let traders themselves establish slot rights as they each transact. However there appears little support for this alternative from the industry and the CAA considers there may be benefits in terms of the transaction costs of trading in attempting to establish universally defined slot rights at the outset.
- 1.5 Where slot rights are clarified buyers and sellers can then attach an informed price and opportunity cost to individual slots and undertake mutually beneficial trades with certainty (particularly in respect of future reclamation). At present, both with ill-defined slot rights and trading occurring within the context of a “grey market”, only carriers with sizeable slot portfolios may be able to attach a realistic opportunity cost to slots. Even then it is likely to only be an “internalised” value. A true opportunity cost that would be evident from a legitimised and transparent secondary market would better highlight for all concerned the true value of congested capacity.
- 1.6 Establishing clearly defined tradable rights in slots can, a priori, be expected to promote slot trading and market efficiency as legal recognition of the rights will reduce the uncertainty and risk under which the present “grey” market operates.

¹ Of course, in reality, a number of factors, such as the pursuit of strategic objectives by airlines or political objectives by governments may impede such efficient transactions.

- 1.7 There was widespread support among respondents for clearly defining the rights and obligations associated with a slot. BAA, while recognising that there would have to be sufficient clarity in what constituted a slot, questioned whether slot rights have to be defined in “unambiguous legal form” before an effective secondary trading market could be implemented. However, whilst the UK grey market is evidence that some form of secondary trading can occur despite uncertainties surround slot rights, most other respondents accepted that greater efficiencies could be realised in the secondary market with legal clarity over precisely what rights made up a slot.

- The fact that some secondary trading already occurs despite no clearly defined legal rights should not be seen as evidence that clear tradable rights are not necessary for an efficient secondary trading system. Clear legal rights ought to be defined so as to reduce the uncertainty and risk presently surrounding grey market trading. Defining such rights will provide a firmer basis upon which private bargains may be struck and efficiency improvements in airport capacity allocation realised.

Beneficial “ownership” and tradable rights.

- 1.8 Defined tradable rights need not convey “ownership” in the freehold sense.² In many other markets rights falling short of “freehold”, such as licence or leasehold rights, are defined and are freely traded. Ultimately, the form of rights defined for slots may be a matter of policy judgement. However, it is the ability to trade slot rights, and not any particular initial distribution of slot ownership or freehold rights, that allows slots to be used in a way that maximises the value of use of all slots. It could be argued that introducing market mechanisms into the primary allocation of slot ownership would minimise the need for any subsequent rearrangement through secondary trading. However, given the evident political or legal obstacles to establishing ownership and undertaking primary allocation, an alternative is to implement a properly working secondary market possibly by defining something less than freehold rights. Through secondary trading it should be possible to achieve an efficient outcome irrespective of initial allocation.

- The challenges of clarifying “ownership” for the purposes of the primary allocation of slots need not prevent the definition of tradable rights in slots and legitimising a secondary market. Tradable rights short of “freehold” rights could be defined and efficiency gains realised through secondary trading. In a competitive market slots ought to move to those who value them the most irrespective of their initial allocation. The issue of “ownership” and any distribution of the rent lying behind slot rights ought to be recognised as a separate policy decision.

What Rights can be said already to exist in a slot?

- 1.9 Slots have been defined in EC Regulation 95/93 as:

“The scheduled time of arrival or departure available or allocated to an aircraft movement on a specific date at an airport co-ordinated under the terms of this Regulation”.

- 1.10 In the Commission’s June 2001 proposal to amend the slot Regulation, a slot is defined as:

² Ownership of slots under existing arrangements is disputed: Governments, airlines and airports have all claimed ownership.

“the entitlement established under this Regulation, of an air carrier to use the airport infrastructure at a coordinated airport on a specific date and time for the purpose of landing and take-off as allocated by the coordinator in accordance with this Regulation”

1.11 Other definitions exist. For example,

“The scheduled time of arrival or departure available for allocation by, or as allocated by, a co-ordinator for an aircraft movement on a specific date at a fully co-ordinated airport”- IATA Worldwide Scheduling Guidelines³

“The specific time allocated for an aircraft to land and to take-off” – ICAO’s International Civil Aviation Vocabulary

“Rights” provided in EC Regulation 95/93

1.12 The EC Slot Regulation does provide some clear rights including:

- a form of “squatters’ rights” whereby an airline can claim the same slot in the next equivalent scheduling period (8.1(a)), subject to the general obligation to use it 80% of the time (10.3);
- for “new entrants” to be allocated 50% of pool slots, where 50% or more of requests have been made by them (10.7);
- to preferential entitlement to the remainder of slot capacity based on a range of factors including:
 - the introduction of a year-round service;
 - a general preference for commercial air services (8.1(b));
 - the size and type of market; and
 - curfew restrictions;
- to “freely exchange” slots between air carriers (8.4), subject to a two-season prohibition on the exchange of slots received by new entrants operating between two Community points (8.5); and
- to freely exchange the use of a slot between route and type of service (8.4), subject to final confirmation of feasibility by the relevant co-ordinator.

Clarification of “rights” provided by UK case law in the Guernsey case.

1.13 While there is very limited case law interpreting the extent or nature of such rights, the UK High Court case in *R v Airport Co-ordination Limited ex parte The States of Guernsey Transport Board* clarified some of those existing rights:

- The right to exchange slots between airlines can involve monetary consideration as long as slots are exchanged between carriers rather than simply transferred in one direction from one to another. This has paved the way for the continued development of a “grey”

³ These guidelines, widely used by slot co-ordinators (and which create preference rights largely consistent with the EC Regulations) do not appear to have legal status in Regulation 95/93 other than an obligation on the co-ordinator to “take into account” such guidelines.

market in UK slots largely based on the “exchange” of commercially valuable slots for ones in the off-peak hours; and

- The right to reclaim a slot under the grandfathering provisions of 8.1(a) extends even to the situation where the applicant has no wish to operate at the airport.

In defining tradable rights in a slot what factors need to be considered?

1.14 If an attempt is to be made to define a slot for the purpose of secondary trading - at its most basic level as a bundle of rights granting enforceable authority to undertake particular action- the CAA considers that three key factors need to be addressed:

- The bundle of rights – A slot is an intangible interest. Like a share certificate or a professional licence, a slot derives value not from its intrinsic physical nature but from what it represents. As such, it is critical to define the rights that make up a slot. The existing slot allocation system and, to some extent, trading in the UK grey market, has confined slot rights solely to runway usage. The benefits of formally incorporating rights beyond runway capacity are uncertain and may require further analysis. Nevertheless, below we attempt to identify what could be incorporated into the tradable rights of a slot.
- Duration of the rights – Critical in establishing clear slot rights is the duration for which such rights may be exercised. The CAA’s initial position is that in defining slot rights no restriction on duration should be included so that the duration for which slot rights are traded for is something left to the market.
- Obligations – In defining tradable rights, clarification of the ability for third parties (such as the State or the airport) to interfere with or place obligations on a slot’s use needs to be clarified. Given that obligations on the use of slots will impact on the value, purchasers ought to know, for example, under what circumstances they might be obliged to forgo or transfer the slots to another.

The Bundle

1.15 The “rights” presently defined in the EC Slot Regulation are largely constructed around the right to take off and land (i.e. runway usage). To some extent this has also been the main focus of the industry, particularly in the UK, as runway capacity constraints in the South-East have largely represented the real constraint. However, a slot could potentially encompass rights to use a variety of other physical and technological resources necessary for airlines to operate at an airport. Rights to non-runway capacity could be particularly important where airport users are facing airport infrastructure constraints that would negatively impact on the ability to use runway rights (e.g. passenger terminal capacity). Otherwise a slot’s value may be severely limited in the future by non-runway airport infrastructure constraints. It is in this context that the CAA set out to identify what other rights could be considered as being incorporated into a slot’s rights.

Runway capacity

Traditionally, a slot has been considered primarily in the context of a runway time.⁴ This is largely as a result of it being the need to control the distribution of air traffic movements departing and arriving at airports that originally gave rise to the current system of declaring an hourly capacity and allocating slots in accordance with IATA scheduling procedures and the EU regulation. Many respondents confirmed that they see other rights merely as secondary to runway capacity.

Given actual aircraft movements can be influenced by a host of controllable and uncontrollable factors, any right to runway capacity would have to have some time flexibility built into it. Absolute performance times are likely to be too inflexible both for the airport and for the airline. Virgin Atlantic advocated the use of “time-windows” to cater for operational flexibility.

Free Transfer of Use between Routes

A slot is not aircraft-type or route specific. Slot holders are therefore free to change the use of their slots (subject to other constraints such as terminal capacity and bilateral restrictions).

Some respondents, including the Guernsey Transport Board, advocated that this right could be restricted in order to preserve a proportion of slots to be used exclusively by airlines operating regional/commuter services. While restrictions on the transferability of slots between routes could, in principle, be achieved by defining separate classes of slots (e.g. domestic versus international slots), the CAA does not believe that such a policy could be implemented without significantly restricting the potential efficiency gains to be made from trading. In deciding on the relative allocation between classes of slots, decision makers would not have the information to ensure the optimal number of slots were assigned to each class, nor continue to be proportioned correctly over time. Greater efficiency benefits could be realised by retaining the absolute right to transfer equipment and routes served to and from particular slots.

Stand capacity

While this right would not have to be so precise as to specify the right to particular individual stands or gates, it could be used to assign to airlines the right to particular terminals, minimum quality levels at gates or to off-stand capacity. The ability to trade this individual right would give the airlines, for example, the ability to purchase the right to switch terminals.

⁴ Current slot times relate to the time that a departing flight pushes back from its stand and the time an arriving flight pulls onto its stand. The times do not technically relate to runway usage times.

Terminal Passenger capacity

There is a limit to the passenger flow capabilities of an airport terminal if quality indicators, such as maximum queuing time, are to be maintained. If expressed as a right, it could specify the maximum number of passengers able to be delivered to a terminal at the slot time. Again, airlines could trade in terminal capacity rights in response to changing demand.

Air Traffic Control capacity

The capacity of the air traffic control system limits the density and frequency of aircraft movements at an airport. At present, the allocation of a slot gives an airline implied permission to seek an ATM slot. This implied permission could potentially be expanded to create an independent “slot in the sky” for en route air capacity (particularly peak hour European en route capacity administered by the Central Flow Management Unit (CFMU) in Brussels). The risk if provision is not made for “sky” slots to complement “ground” slots is that airlines paying for valuable ground slots could see their investment being devalued by the impact of “first come first served” ATC allocations. In time, explicit market values could be attached to scarce ATC capacity which would improve incentives for best use of congested airspace.

Few respondents commented on the potential for ATM rights to be incorporated into a bundle of slot rights. BAA noted that the linkage between ATM and ground slots is uncertain and complex. Furthermore BAA doubted whether sufficient clarity could be brought to this area in the foreseeable future so as to allow it to be brought within the bundle in the medium term. Perhaps the most important factor to note here is the presence of other considerations (most critically safety) that will determine timely performance, as opposed to enforceable rights.

Given the obvious operational relationship that would exist between the two types of slots it would be important to ensure that a slot’s rights recognised that off-slot movement in one has consequential effects on the other and perhaps a system developed whereby timings or time windows were tied or coordinated for both slots.

Schedule

In the absence of being able to define absolute time specific performance rights (given the impossibility of guaranteeing aircraft movement types, late reporting passengers, weather conditions etc) the right perhaps most able to be made absolute and time related is the right to schedule arrivals and departures at particular times.

- 1.16 Following consultation responses the CAA understands that there may be very real complexities in extending a slot’s rights beyond simply runway capacity. ACL supported the general description of a slot as a bundle of rights, considering it to convey both the rights and the multi-faceted nature of a slot. However, it was concerned that any incorporation of rights to access complementary infrastructure and services may reduce its scope for

flexibility in the scheduling process. BAA and Manchester Airport were also concerned that widening the definition of a slot beyond access to runway capacity may impact on their ability to influence airport operations, in particular, the ability to “micro-manage” demand so as to maximise airport capacity. BAA considered the benefits of bundling components other than runway usage into a slot to be unclear and urged that any legal definition of a slot should focus only on the runway element, at least until there had been further experience with market mechanisms in a slot market. BA also questioned how defining a slot more broadly would solve any problems.

- 1.17 The CAA considers that the inclusion of rights beyond access to runway capacity is an area that would benefit from further examination. In particular, the CAA considers it important to explore whether there are other options for slot users and airports to trade or contract directly to “secure” non-runway capacity rights, should there prove demand to do this in the future. It is conceivable that greater flexibility and opportunity for private bargains relating to non-runway capacity could be realised where it was not included within the definition of a slot and therefore not subject to the EC Slot Regulation.

- The CAA believes that it would be desirable at some stage to incorporate non-runway ancillary rights into the definition of a slot. However, it recognises that all of the effects of doing so may not be fully understood at present and therefore consider it an area that would benefit from further work to establish the costs and benefits of doing so. The CAA recommends that this and alternatives for allowing airlines to contract with each other and airports directly outside the scope of the slot Regulation be investigated further.

Enforcement of Slot Rights

- 1.18 One further issue arises in relation to each of the above rights- enforcement. Key to protecting the value of any slot rights is the ability of those with slots to enforce their rights against others. The slot co-ordination system has gone some way in defining the “exclusiveness” of slots. However, individual airlines have never relied on legal enforcement to secure slot rights but rather have relied on voluntary co-operation in observing allocated slot times, supplemented by the rather weak powers of enforcement bestowed on the slot co-ordinator. Most respondents considered the present voluntary enforcement rules to work adequately within the context of the existing system.
- 1.19 Indeed, it is not clear how slot rights could be legally enforced. The uncertainty of the timings of aircraft movements due to factors outside an airline’s control - most obviously the practice of ATC allocations overriding allocated slot timings - makes the enforcement of absolute rights at given times difficult or impractical.
- 1.20 The right to exercise slot rights may have to be flexibly defined, for example, by defining the rights in terms of time windows or quality parameters. For example, a slot could consist of the right to schedule a 0900 arrival and a 1030 departure, but define the rights to actual runway and ATC capacity within time bands around such times. While the need for flexibility may be different for different airports, the specifying of time bands does not provide an insurmountable obstacle to granting enforceable rights.
- 1.21 However, even where enforcement rights are not tightly defined, two issues remain. First, how does the system address any intentional misuse of slots? Regulatory mechanisms to fine airlines or confiscate slots for regular and intentional misuse could provide the means to incentivise on-time performance. Carriers’ actual use of slot times versus their slot rights

could be measured and published with any systematic off-time performance incurring a penalty. However, as BA highlighted, the problem remains of designing a scheme that could successfully differentiate between factors outside of an airline's control and deliberate abuse. Manchester Airport considered that the underlying rights of enforcement must rest with the airport operator.

- 1.22 The second issue is whether a slot owner should be entitled to compensation if denied the use of their slot within any time-window. Where an airline is denied the timely delivery of its rights through no fault of its own and/or uncontrollable events (e.g. weather) for the slot to have meaning (and value) there ought to be a right to compensation, perhaps from a pool of any fines collected. However, BATA, Britannia and ACL were among the respondents who were unconvinced that any sort of compensation scheme could work in practice. ACL did however recognise that compensation may be appropriate in exceptional circumstances where airlines were denied access over a prolonged period.
- 1.23 The extent to which any additional forms of enforcement powers may be necessary would appear dependent on an effective voluntary and flexible arrangement persisting between all users of an airport and could largely be a result of the rather ill-defined rights in which the present system operates. While this may be sustainable in the short term, it may be unrealistic to assume this will continue where significant capital outlays have been made for slot rights. Further work is required to determine how slot rights could be effectively enforced in a less harmonious environment.

- As with most forms of legal rights the CAA considers that a system of legitimate enforcement of those rights (including the possibility of compensation for those denied slot rights) will, in time, be required. However, at present the voluntary system of co-operation in observing slot times may make such a system unnecessary.

Duration

- 1.24 Under the current slot regulation, airlines that have the use of a slot for a season have the right to reclaim it for the next equivalent season, commonly referred to as grandfathering. However, like a form of "squatters' rights", airlines have possession only as long as they stay. A slot left unused will be allocated to another airline without any agreement by the departing airline.
- 1.25 A key factor in defining the rights in a slot is the duration for which the rights may be exercised. Tradable rights in slots could potentially be perpetual, time-limited or be in the nature of a revocable licence or "operating privilege". Drawing on land as a parallel, it is possible to imagine three types of rights with different durations:
- *Freehold* - Full and perpetual rights to use the slot.
 - *Leasehold* - Full rights which are time-limited. The lessee is under an obligation to "hand back" the rights on expiry of the lease. Leases may be time-limited or provide for perpetual renewal rights.
 - *Licence* - The conferring of permission by a grantor to a grantee to use in accordance with the terms and conditions set out in each licence or imposed through regulations.
- 1.26 Industry views on defining time-limited rights are varied. Most airline respondents did not accept that there should be any time limitation placed on slots. BATA and BA in particular argued that there would be significant dangers in either the UK or the EU removing

grandfathered slots unilaterally in the context of a global system where such rights were widely accepted. BAA considers that any form of time limiting of slots might create more problems than it solves. Others, including Manchester Airport, consider that the case for time-limiting slots had yet to be proved. Virgin Atlantic was opposed to perpetual slot rights as they consider that rigidities in the secondary market might limit the liquidity of the secondary market and therefore impede efficient entry.

1.27 With indefinite rights (for example freehold or perpetual leasehold/franchise rights) reliance would ultimately be being placed upon the ex-post secondary market to allocate rights to their most efficient use. In contrast, if slot rights were time-limited and reallocated by the state (by whatever means), greater reliance would be placed upon the reallocation mechanisms to distribute slots efficiently. Therefore, on economic grounds, the case for advocating time-limited rights in slots is strongest where it is believed a secondary market would be ineffective in allocating slots efficiently.

1.28 The CAA believes, for reasons explained later in the paper, that a well implemented secondary market would be effective in enabling slots to reach those who place the most value on them. If this is so perpetual rights could be defined without adverse effects on the efficiency of the slot market. While the CAA recognises that time-limiting slots may have some benefits, such as lowering any capital outlay in slots for new entrants and providing a greater guarantee of a high degree of liquidity in the market, it believes such benefits would probably be outweighed by a number of costs associated with periodic reallocation, including:

- Uncertainty deterring efficient investment

Time limited slots risk deterring market entry and efficient investment where it is believed the duration of slot rights is shorter than the period required to recoup a competitive return on the slot's capital outlay. While it is uncertain precisely what period may be optimal in terms of investment incentives, at most risk would be investment in new developing routes where a long-term view of the market may be required.

- Transaction costs

Were it to be the case that the same carriers who had relinquished the expired slots were generally repurchasing them (for example, if incumbent airlines were given the right to match the highest bidder) then periodic reallocation would be imposing transaction costs on those carriers for little or no economic benefit.

- Appearance of Administrative Discretion

If slot rights of a short to medium duration were to be granted by the State the appearance of ultimate "ownership" of the slot by virtue of the fact of periodic reallocation could expose the State to slot demands in international bilateral negotiations and, more generally, to domestic interest group pressure.

1.29 Finally, the duration for which all rights can be exercised will depend on the future ability for third parties to claim or restrict slot rights (for example, the State in implementing environmental constraints, the airport undertaking development work). The possibility of a third party being entitled to abrogate the normal workings of the market is recognised in other markets. Compulsory purchasing powers exists with many individually owned resources and where the public "need" for the reclamation of individually held rights is

sufficiently urgent or necessary, such powers can extend to bypassing the normal workings of the market.

- The CAA is not convinced that in defining slot rights a time limit needs to be placed on the exercise of such rights. Within a secondary market participants ought to be free to trade rights of any duration thereby leaving it to the market to determine any limits on the duration of slot rights where it is efficient to do so.

Obligations

1.30 However the tradable rights in slots are defined there is a question as to whether it will also be important to specify what, if any, obligations a slot holder in exercising such rights is under. Clearly such obligations may reduce the value of a slot. For example, under the existing EC Slot Regulation, holders of slots are under a use-it-or-lose-it obligation to use the slot at least 80% of the time or otherwise risk having the slot confiscated. Environmental constraints may represent another policy area where States may wish to impose obligations (e.g. noise quotas) which will also affect the exercise of particular slot rights.⁵ Article 8(1) of the EC Market Access Regulation⁶, which allows Member States to distribute traffic between the airports of an airport system, is a further instrument that can produce measures which may restrict access to the individual airports of a system and thus have the potential to interfere with slot rights.

- The defining of tradable rights in slots need not remove the State's ability to impose legitimate obligations on those who hold slot rights. However, it is prudent that effort is made to define the scope of any obligations on slot holders at the outset so that slot trading decisions are made with full knowledge of both rights and obligations.

⁵ For further expansion see PricewaterhouseCoopers' Report for the European Commission, May 2000.

⁶ (EEC) No 2408/92

2. Secondary Trading

The case for Secondary Trading

- 2.1 Based on the English High Court's decision in *R v Airport Co ordination Limited ex parte The States of Guernsey Transport Board*, airlines have the authority under the existing slot Regulation to exchange slots and for such exchanges to be accompanied by financial compensation. Slot exchanges also occur on an extensive basis internationally through IATA scheduling conferences.
- 2.2 The CAA believes that the primary objective of slot allocation is achieving an efficient allocation of scarce airport capacity. It is important to recognise that a flexible slot allocation system is not an end in itself but rather a means to an end. Secondary trading would help to secure the efficiency objective by:
- Placing an opportunity cost equal to the market price on individual slots and, to the extent that existing allocations are inefficient, identifying gains from trade that create pressure for the movement of slots to where the highest value is recognised and the commensurate willingness to pay exists; and
 - Identifying and making transparent the cost of market entry thereby assisting more efficient entry decisions to the benefit of consumers in relevant downstream markets.
- 2.3 While secondary trading does not address insufficient airport capacity (noted by many respondents as being the most fundamental problem), it would go some way towards meeting the reasonable objectives of ensuring slot rights can be held with confidence and possible growth opportunities for incumbents and new entrants alike. A transparent market would give clearer signals about the value of airport capacity on the margin and clarification of the tradable rights would provide a firmer basis for private bargains to be struck, expanding the opportunities for airlines to make commercial decisions.
- 2.4 Based on consultees' responses secondary trading appears capable of implementation without adverse effects on the wider international slot framework. In some instances, the ability for foreign carriers to acquire slots through a secondary market may assist the UK Government in liberalising international air service markets.
- 2.5 The legitimisation of secondary trading was strongly supported by nearly all respondents with most generally accepting that it will encourage efficiencies (including the effective use of scarce airport capacity) and provide easier opportunities for airlines to obtain slots. Strong reservations were expressed only by Manchester Airport who queried whether market mechanisms designed to maximise economic efficiency were able to fully take into account social and economic externalities, which were necessary to maximise social welfare. Manchester Airport instead considered that slots should be allocated under a system designed to maximise "community benefit" from the slots and believed that market mechanisms alone would result in long haul carriers, who tend to earn more revenue and profit per passenger and hence have a higher willingness to pay for slots, gaining a higher concentration of slots. However, it does not necessarily follow that consumers will always value the use of a slot for long-haul higher than short-haul destinations, but, in any event, the CAA considers such decisions are better left to the market where forces exist to respond to changing consumer demands.

- There is widespread support in the industry for the legitimisation of monetised secondary trading and a belief that it can be implemented without an adverse effect on the wider international slot framework. The CAA recommends the UK continue to press for the legitimisation of monetised slot trading which it sees as an effective means to exert market pressure that is likely to lead to a rationalisation of slot holdings.

How may rights be transferred?

2.6 The importance of formalising tradable rights in slots is underscored when it is recognised that slots could be traded in a number of ways, including;

- Delegation of power: A authorises B to exercise its rights. B's exercise of the rights would be subject to supervision by A.
- Simple Assignment: A assigns full rights to B.
- Leasing: A assigns to B rights for a limited period and upon expiry all rights revert to A.
- Partial transfer of slot components: A splits the rights into separate parts, so that any individual part may be assigned to B, either permanently, for the lifetime of the licence or for a shorter period.

2.7 All of these different forms of trading appear legitimate, although at present only assignment by exchange is formally recognised in the slot Regulation. While leasing appears to occur in the grey market under different levels of formality, its legitimisation as a form of secondary trading may be popular with market participants if the US experience in slot trading is any indication.

2.8 Most respondents supported the idea of legitimising leasing. Leasing under the present grey market is believed to be discouraged because a lease has to be registered as if it were a permanent trade, exposing the lessor to the risk of losing the slot to the pool should the lessee, for example, lose its Air Operators Certificate whilst "holding" the slot. As a minimum, it would appear necessary to distinguish between levels of slot rights, such as "slot user" and "slot holder"- an idea many respondents supported.

2.9 The recognition of leasing, or the right to trade temporary slot rights, offers an opportunity for greatly improved flexibility in a secondary slot market. Leasing would allow airlines to "fine-tune" operational requirements and respond to cyclical swings in the industry. The leasing of slots for short periods of time would also allow innovative airlines to try out new ideas and airlines in financial difficulties to realise their assets in a more flexible way. It may also reduce, in part, the incentive to 'baby-sit' a slot, a practice that occurs under the current system.

- The CAA believes market participants ought to be free to trade slot rights through a variety of mechanisms including assignment and leasing. All forms of trading should be recognised as a means of ensuring that slot rights can be traded with the maximum amount of flexibility.

How could slot trading be implemented?

2.10 It is possible to envisage a range of scenarios under which secondary trading could be implemented. Slot trading could be conducted solely through a centralised exchange or be based on a system of bilateral contracting. An “official” market could be established - either mandatory or optional - with other organised markets being encouraged or discouraged. Trading formats involving some form of internet-based trading system, analogous to trading systems that are part of on-line natural gas and electricity commodity regimes, are also conceivable.

2.11 With all forms of trading it is probably necessary to assume a continuing integral role for slot coordinators. The Coordinator’s specialised and up-to-date knowledge of the system would be needed to confirm the operational feasibility of particular trades (particularly where a change of use in the slot is involved) and to keep a central registry of slot holdings. Once confirmed as feasible the transfers and any consequential operational slot swaps could occur and be registered by the Coordinator as they are now.

Forms of Secondary Trading

Market Provider	An organised market is simply an institutional forum for exchange, where information is disseminated and a structure and procedures are put in place to facilitate and standardise trade at market-determined prices. It would have the appearance of a bulletin board, stock exchange system where bid and ask prices are posted continually and the highest posted offer can be accepted at any time. Typically, the market provider defines standard contractual terms and administers the apparatus of settlements.
Market Broker	To facilitate trading, brokerage services may emerge. Brokers can play an important role (either passively or proactively) in promoting slot deals by connecting buyers and sellers and brokering deals for a commission.
Market Maker	Market making services may also emerge in a secondary market. Market makers can play an important role in smoothing the operation of a market by accepting the risk of buying, selling and holding the commodity, which some participants may be reluctant to do. A market maker is a third party who trades for their own accounts and maintains inventories by buying, selling or taking positions on the market. Market makers are usual where it is important to sustain continuity of prices over time and reduce volatility. It is conceivable that in the context of slots, market makers may act to put together usable “packages” of slots and sell at a premium.
Bilateral trading – with an obligation to publicise proposed transaction	Not an organised market as such, but a system of bilateral trading with an obligation to make intended slot transactions visible to all those who may be interested in purchasing the slot. However participants ultimately trade privately and not through an observable central exchange.
Bilateral trading - with no obligation to publicise in advance of trading	In effect, this would be the result of legitimising the present grey market. It may also be supplemented with some sort of public register that could record all successful trades.

2.12 These options are not all mutually exclusive. For example, a combination of both an organised market and bilateral trading may together represent the best form of trading (see discussion later).

- In implementing secondary trading care should be taken not to preclude the development of organised central markets to supplement simple bilateral trading. Whether such markets will develop will depend on a variety of factors including whether it is commercially viable to establish an organised market. It is likely that a role for the slot coordinator to confirm the feasibility of all trades will remain necessary.

Factors to consider in Implementing Secondary Trading

Viability/Feasibility

- 2.13 This not only includes the transition from the present grey market but also the ability for a market system to sit comfortably with the various processes relating to international slot allocation. Important too will be the ability of any trading format to interface efficiently with scheduling and ATC requirements.
- 2.14 All secondary trading scenarios appear feasible. The only concern is whether some form of organised market would be viable in the event that the market suffered from low liquidity (at least initially). However, organised markets for trading in other newly defined property rights, such as quotas for fish and pollution emissions, have become established despite initial liquidity concerns. An organised slot market, with a prospective large number of slots able to be traded and an array of eligible participants in the market, must be considered to have the potential to develop into a well functioning and effective market over time. ACL and BA both agreed that market liquidity is likely to increase over time with greater participation, increased information flows and an increase in the number of secondary trades and leases.

- Scepticism as to the likely liquidity of a slot market may be proven unfounded beyond the short term. Many factors, such as the cyclical nature of the industry and the strategic value of some UK airports, suggest that once a secondary market is established and proven, the level of trading is likely to increase.

Participants in the Market

- 2.15 The CAA's general belief is that any form of restriction in a market should only be implemented where there exists a good argument for its existence. Under the existing slot Regulation non-airline entities are prevented from holding slots. However, given the desirability for slots to be held by those who value them the most, there is a strong case for extending the range of entities that may trade in slots beyond simply airlines. This would appear to have several benefits, including:
- Participation by Regional Development Authorities and local bodies represents a logical and efficient way for communities to maintain links to strategic airports such as Heathrow. Under the "buy-sell" rule introduced in four major US airports in 1986, non-carriers traded a significant number of slots with a number of communities acquiring slots to enhance services to their region's airports.⁷
 - Allowing financial institutions to own slots would make it possible for airlines to use slots as collateral in raising capital, including the ability to grant a mortgage over slots. This would lower market entry barriers, in particular, for smaller carriers and be of benefit to both incumbents and new entrants. In situations of default the slot would revert to the holder of the mortgage.
 - The admission of banks and other financial intermediaries to slot trading may also lead to the development of a more sophisticated market, including the possibility of an options/futures market in slots and buy and lease back arrangements.

⁷ see David Starkie (1994) 'The US Market in Airport Slots', Journal of Transport Economics and Policy

- Brokers and market makers can act as intermediaries to facilitate the functioning of the market by bringing together buyers and sellers.
- 2.16 Respondents were divided on the issue of non-airline participation in a secondary market. Proponents included Virgin and the Guernsey TB. Of those who opposed the idea (including BA, Britannia and BATA), most either expressed concern over entities other than airlines engaging in speculative and/or strategic trading and/or whether non-airlines could effectively participate in the practicalities of holding slots such as scheduling conferences. However, speculation is an important feature of well functioning markets since it reveals information about the current valuation of a commodity or expectations about its future value. It is also possible to address hoarding concerns by other mechanisms, such as clearly defined obligations, rather than attempting to minimise the unproductive use of slots by restricting participation in the market (particularly in view of the practice by some airlines of slot “baby-sitting”).

- The CAA cannot see any reason why non-airline entities should be precluded from participation in a slot market and in many cases this may improve the efficiency of the market. However, it will be necessary to ensure that such non-airline entities comply with the obligations placed on slot holders.

Flexibility

- 2.17 Flexibility in slot trading is likely to be a key ingredient in ensuring widespread participation (and hence liquidity) in the secondary market. In implementing a secondary market consideration should be given to allowing participants the freedom to choose the type of market format (e.g. bilateral versus central organised market), with whom to trade, when trades may occur, whether rights have to be traded as “bundles” and what slots may be traded for (e.g. cash, in-kind payments).
- 2.18 The CAA’s view is that such freedoms should only be subject to those restrictions that are necessary to address specific identifiable market failures and where the benefits outweigh the costs of regulation.

Bilateral and multilateral trading

- 2.19 The most flexible arrangement for market participants would be to permit both bilateral and organised market trading. A combination of both would not only provide participants with a choice as to the format of trading but efficiency incentives would exist for the organised market provider and market participants. In contrast, mandatory participation in a particular trading mechanism, such as through an official exchange, represents a restrictive approach as it precludes the development of competing market formats which might prove superior (for example, lower transaction costs, provision of auxiliary services or differentiated products) or bring innovations.
- 2.20 Contestability requires that participation in each market is voluntary, so that traders can move from one market to another to exploit apparent price advantages. However, there are arguments both for and against allowing multiple markets to develop. Multimarket trading is often associated with innovation and competition. But a series of different markets may impose burdens on traders, who may well prefer a simpler structure that avoids managing a complex portfolio of contracts, bids and schedules.

- Market participants should be allowed to trade either bilaterally or through an organised market(s). Allowing participants the freedom to elect how to trade offers the greatest flexibility and stimulates competition between alternative trading mechanisms.

Anonymous or selective trading

- 2.21 The flexibility of being able to choose with whom to trade is also likely to impact on the willingness of airlines to trade slots. The present bilateral trading in the UK grey market allows airlines to approach and trade with whomever they choose. However, if an organised market were to involve slots being traded blindly and sellers being obliged to trade with the highest anonymous bidder, most airlines indicated that they might be less inclined to participate.
- 2.22 Whilst it is likely that many transactions would result in sale to the highest bidder, it is questionable whether this should be mandatory. There may be a variety of legitimate commercial and competitive reasons for airlines not wishing to have to trade slots blindly. Most obviously, alliances, franchise agreements and parent-subsidiary relationships all suggest there may be cases where an airline will only sell to another specific airline. Similarly, it is possible that a slot trade could be part of some larger package (including, perhaps, slots somewhere else where trading is not the practice) making it necessary that vendors know with whom they are trading. Therefore, as ACL and BAA highlighted, any obligation to sell to the highest cash bidder could simply lead to no sale and thus act to reduce the liquidity of the market.
- 2.23 For reasons discussed later in the paper, concerns that a vendor airline might refuse to sell its slots to a potential purchaser which is one of its active competitors, or might discriminate in terms of price, so dictating the rights of access of other carriers, is a matter best dealt with by competition law. The specifying of a particular mechanism for selling any sort of property is unusual and ought to be avoided.

- The CAA considers that mandating the trading of slots anonymously through a single market may adversely affect the development of a liquid and cost effective secondary trading market. Selective trading, which has an anticompetitive intent or effect, is best addressed through competition laws rather than restrictions in trading which risk hampering the liquidity and ultimately the efficiency of the market.

When trading may occur

- 2.24 Consistent with an objective of wishing to make a secondary market as flexible as possible, there would seem to be no need to place restrictions on when trades may occur. Continuous trading, as opposed to periodic trading, avoids imposing any waiting costs on traders and is less prone to excessive price volatility as information is implicitly conveyed to the market on a continuous basis through instantaneous price changes. While trading activity may be more intense in the lead up to slot scheduling conferences, market participants ought to have the freedom to trade slots on the secondary market all year round. Some respondents suggested however that a short moratorium on trading in the period before each IATA timetable conference might be appropriate so that coordinators can resolve any outstanding issues.

- Continuous trading is likely to assist the workings of a slot market. The extent to which slot coordinators may require trading to be suspended leading up to a slot conference warrants further investigation.

Trading of components

- 2.25 The greatest scope for flexibility in what may be traded in the secondary market would be to allow participants to trade not only slots as bundles but also to allow trading in the individual components of a slot (e.g. terminal capacity, aircraft specific stands). While trading in individual components would only be necessary where runway, terminal or stand capacity were constrained (and therefore not freely available from the Coordinator), it would provide airlines with the flexibility to alter the way they use their slots where the Coordinator could not provide, for example, a shift in terminals or a change in stand type. Airlines could fit together the various components of capacity that they need in order to introduce new or upgraded services including, for hub operators, using resources drawn from existing services, which may not be possible simply by trading slots. It would also be advantageous for airlines to be able to realise a cash value for components of capacity that they hold, yet which have become surplus to their requirements.
- 2.26 The unbundling of slot components would be efficient from an economic policy perspective. However, the extent to which it would be undertaken in practice may be limited because of the transaction costs involved. Whether the trading in components would be of net benefit or detriment depends on whether the synergies between rights are so great that to separate them might impose unacceptable risks on the ability to build viable slot portfolios. Also relevant will be whether it is possible to adequately administer, monitor and enforce the trading system for a particular slot component.
- 2.27 There may also be other effects on the trading in slot components. For example, it may remove some flexibility from the hands of the Coordinator in the scheduling system, a feature many see as critical to the effective operation of the present system.
- 2.28 Most respondents were opposed to the idea of having the option to trade in the elements of a slot, at least initially. BA did not believe it would be practical for the elements to be traded separately and (along with BATA) considered that it may add an unnecessary complication to the system. Of respondents open to the idea, ACL recognised both advantages and disadvantages in the idea and Virgin Atlantic considered that trading in subsets of slot elements would be necessary where a slot is defined wider than runway capacity so that carriers could formulate their own capacity-service quality combinations.
- 2.29 However, many respondents, including ACL and BAA, agreed that whatever market structure was put in place, it should be designed and implemented in a way that is capable of future development into a more sophisticated market in slots and slot components. However, it is fair to say most respondents considered that at least in the initial stages the market should deal exclusively in runway rights.

- The CAA recognises that the synergies between runway, stand and terminal capacity are likely to be significant and understand that prior to any separation of the rights for trading purposes the extent to which unacceptable risks may be created warrants further investigation. It may also be the case that in legitimising a new market it will be important to ensure trading is made as simple as possible, which again may favour initial trading in slot “bundles”. Looking forward, however, the CAA considers it important that the development of sub-markets in slot components be allowed to develop should there prove the demand. To this end the CAA also considers it important that options to address separation risks, such as “tying” runway capacity to a minimum level of associated ancillary capacity, be further explored. What slots may be traded for

- 2.30 Under the present UK grey market consideration other than cash appears to have included code sharing arrangements and slots at foreign airports. Airlines will presumably want to preserve this ability in the future as well as an ability to undertake genuine swap trades in order to optimise schedules.
- 2.31 It is certainly conceivable that most barter-type trade arrangements could be undertaken in a bilateral trading system such as that which already occurs in the UK grey market. Even in an organised market it is conceivable that an appropriate platform could be developed to allow slot holders (particularly those airlines wishing to ensure a stable number of slots for continued operations) to post swap orders making any sale conditional upon being able to acquire another slot.
- 2.32 However, it is less clear how an organised market would cater for non-monetary consideration, particularly in the context of an auction format. The value of a code sharing deal or slots at a foreign airport are difficult to quantify and any organised market which mandated the selling of a slot to the highest monetary bidder risks deterring those trades that may only be feasible as part of a wider “in-kind” commercial arrangement.
- 2.33 To maintain the integrity of an organised market basic rules would need to be established as to how trades were to occur. Well-defined rules are likely to be very important in a secondary market to encourage transparency and information disclosure and assist in minimising the transaction, administration and business compliance costs of trading. Such rules need not be mandated by the State but can be established by the market participants themselves (as was the case in the London Stock Exchange).

- Non-monetary consideration to date appears to be a valuable “currency” in slot trading. Preserving the ability to swap slots and trade slots for both monetary and non-monetary consideration appears logical although the CAA acknowledges that the use of non-monetary consideration has implications for price transparency.

Cost of establishing and running the Secondary market

- 2.34 The costs involved in establishing and running a secondary market can be distinguished from the transaction costs which individual participants would incur (see below). While there may be transitional costs in moving to any form of legitimised secondary trading, the cost effectiveness of, for example, designing and implementing an organised market has to be weighed against merely legitimising the present grey market where airlines only trade bilaterally.
- 2.35 The costs of establishing and running different forms of a secondary market will vary. Simply legitimising the present grey market system and allowing bilateral trading with few reporting obligations would require relatively low resources, both in terms of establishment and running costs. In contrast, designing and implementing an organised market is likely to require private investment in suitable market design and information technology platforms and ongoing resources to fund its operations, all of which may reduce transaction costs in return.
- 2.36 In implementing an organised market consideration needs to be given either to appropriate efficiency incentives for its operation or to the development of an appropriate governance structure by the parties, who would have to pay the cost of running the market. If, for example, a monopoly right to run the market were granted and trading through the market made mandatory, there would be few efficiency incentives, other than governance mechanisms, on the market provider. The greatest efficiency incentive on a market provider

would exist if anyone were free to establish and run a slot market thus allowing natural competitive forces to stimulate efficient and innovative slot market providers.

2.37 However, in advocating a system of secondary trading where the Coordinator administered the market in a fashion akin to that of a ‘market provider’, ACL maintained that it would be exposed to efficiency incentives through its governance by a consortium of UK airlines. This, it argued, would ensure the efficiency of the market’s operation, the range and quality of services provided and that transaction costs would be minimised.

- Whilst a slot coordinator is undoubtedly well placed to serve as a market provider, their information advantage may act to exclude the possibility of other organised market systems developing. Therefore, whether a slot coordinator should be allowed to extend its role beyond merely a central registry service that confirms the feasibility of particular trades depends on the extent to which a slot coordinator is exposed to efficiency incentives through its governance structure.

Transaction Costs

2.38 The broad concept of “transaction costs”, which are an inherent feature of all markets, covers the direct financial costs incurred by participants (e.g. airlines, brokers and other entities) in trading slots. Although varied in nature, transactions cost can be broadly divided into four categories:

- Search and information costs (e.g. finding a trading partner);
- Bargaining and decision costs (e.g. negotiating an agreement to trade);
- Monitoring and enforcement costs (e.g. ensuring the terms of the agreement are adhered to); and
- Administration costs.

2.39 An objective in implementing a secondary market in slots ought to be to minimise whatever transaction costs are involved in slot trading. Although transaction costs in a slot market can be expected to fall as the market develops, ultimately the level of transaction costs are a key indicator of the success or otherwise of any trading system.

2.40 Transaction costs are likely to be lower in a centrally organised market compared to bilateral trading, but only in the case of relatively standardised transactions. Where there are many variables and complexities bilateral and/or brokered trading is likely to be preferred. There are situations where transaction costs may be high even in an organised market, particularly where the market is “thin” which might be the case where a significant number of trades are done “off-market”. However, transaction costs can be expected to decline over time both as market systems become established and as the market develops.

2.41 In some markets, such as equity and commodity markets, organised exchanges have evolved to bring together buyers and sellers (or their agents) to minimise the costs for sellers of searching for prospective buyers (and vice versa) and to provide information to both parties on the current price or value of the commodity. The development of standard contractual terms and conditions in an organised market may also help to reduce bargaining costs (especially for smaller airlines participating in the market).

2.42 In a secondary market where no organised or “official” market is established at the outset, mechanisms can be expected to evolve to reduce the transaction costs associated with slot trading. Where a secondary market relies only on bilateral trading efficiency gains would be made through a sequence of bilateral trades between buyers and sellers. But given search costs and limited geographic access to buyers and sellers, participants may suffer from limited information about the value all potential participants place on the slot. As a result the most appropriate buyers and sellers may not be matched in the first instance. Significant search costs may also result in sellers only approaching visible operators and/or hub operators as potential buyers to the exclusion of new entrants or non-airline entities.

- The greatest scope for ensuring transaction costs are minimised in a secondary market is to provide flexibility in how participants may trade.

Transparency so as to deliver information

2.43 For a successful secondary market information asymmetry must be minimised. This is most often achieved by ensuring that the market is transparent allowing all market participants (both actual and potential) to be aware of the system so they can easily monitor its activity and a level playing field is established for all. Transparency is also important for a variety of other reasons such as enabling regulatory, competitor and public scrutiny, developing confidence in the market and allowing interested parties to understand the workings of the market and identify potential improvements to market structure.

2.44 In general terms, the greater the information the more efficient a market. This could be particularly true in the context of trading perpetual slot rights as the negative impact of any inefficient trades conducted risks being perpetuated. For a slot market there is a variety of information that may improve the efficiency of the market and reduce transaction costs:

- Intended slot sales, thereby allowing all those who may be interested in purchasing slots an opportunity to place a competing bid;
- The level of activity in bidding for slots;
- The frequency and quantity of trading; and
- The price and number of traded slots, thereby allowing participants to determine relative values between peak and off-peak slots and between slots at different airports.

2.45 Of the items listed above, efficient price discovery is likely to be the most important. As with establishing any new market, consideration needs to be given to how best to encourage the market to develop an efficient price discovery mechanism. Slot price information would allow participants to assess the relative economic values of different slots and allow participants to incorporate slot values into company balance sheets. Slot prices at congested times may also serve to guide entrepreneurial and governmental decisions on the value of airport capacity expansion.

2.46 One effective way to implement price transparency would be to establish a central clearing mechanism for slots, which may provide greater pre and post-trade transparency to all market participants.

- 2.47 Respondents were generally in agreement that the price of individual trades should not be made public. BA suggested that, as with an estate agent, it may be possible to have a system where the asking price is observable, but the transaction price remains confidential. BATA agreed that a secondary market should be clear and transparent but without the need to disclose the actual selling price. BAA commented that there are a variety of ‘currencies’ an airline could use to procure a slot from another airline and a publicised ‘cash’ price might not provide an accurate picture of the trade value. Some airlines, including Britannia Airways, predicted it would be difficult, if not impossible, to guarantee transparency for such arrangements.
- 2.48 Although, in general, information revelation will assist market efficiency, publication of information that relates to individual airlines’ trades, market behaviour, or positions, may harm airlines’ commercial interests and therefore risks impeding market efficiency and liquidity. Were such arguments considered valid it would appear possible to collate information provided that the aggregate information remained meaningful so as still to inform the market without removing the ability for individual trades to be tracked, for example, by competition authorities.
- 2.49 Transparency can be achieved by a variety of means. It could be achieved by making all trades occur through a centrally organised public market or by operating a public registry whereby all trades are simply recorded. However, different systems may produce different levels of information and may interface with a registry system more or less efficiently. For example, formal organised markets should be able to interface automatically, whereas there would need to be some process for notifying bilateral trades. Recent developments in information technology offer great scope for aiding a particular market structure in being transparent. The Internet, in particular, may provide an easy and public medium through which trading activity could be conducted transparently.

- Clearly there are different degrees of transparency that could be incorporated into a secondary market: transparency in how the market operates, transparency of who is intending to trade, who has traded and the value of a particular trade. In the short run, greater transparency, particularly of price information, may enhance the credibility of the market and attract greater participation. Meaningful aggregate information (where quantifiable) would appear to offer a reasonable balance between protecting what might be considered commercially sensitive information and ensuring the market is reasonably informed of trading activity.

Spot trading

- 2.50 Slots made available at short notice could form the basis of a spot market that could assist in short-term flexibility for market participants. All trading scenarios would appear conducive to allowing slots that had become available at short notice (where short may mean anything from within a slot scheduling season to the day before) to be traded within the secondary market. The availability of such slots must already, under scheduling procedures, be publicised by the Coordinator. Given the likely timescales involved, some sort of easily accessible centralised trading platform would appear most appropriate in order, for example, to minimise search costs.
- 2.51 However, the current system in the UK does not reserve capacity for ad hoc use. It relies on the allocation of available off-peak slots and recycling airline cancellations. Given that ad hoc slot use does not confer any usage rights in future seasons, ACL maintains that the negative effect of an inefficient allocation, or failure to utilise a slot, is not significant. In its

response ACL also highlighted that with ad hoc slot allocations often being requested and allocated at very short notice (sometimes only hours before the operation) maintaining the current system of administrative ad hoc slot allocation would be preferable to introducing a spot market.

- While there may exist practical reasons that deem spot trading in slots difficult, the trading of slot rights at short notice should not be precluded. If the practical difficulties are insurmountable such trades will not occur, but being untested, participants should be given the opportunity to test spot trading.

Risk Management

- 2.52 The structure of a market may also affect the future development of related markets. It is generally considered that an organised competitive marketplace tends to be a forerunner for risk management trading. The information revealed in such markets (e.g. prices and price volatility) enable risk management trading whereby participants can hedge against the risk of future price changes. In the context of a possible futures market in airport slots, airlines could improve their risk management by purchasing options to buy slots in the future at certain prices, thereby passing the risk of having to acquire the slots at higher prices on to the issuer of the option.
- 2.53 An organised market offers greater scope for the future development of more sophisticated markets in slots. This could potentially lead to futures and options trading in slots, whereby airlines could purchase the future rights to acquire slots at a predetermined price and thereby transfer the risk of future slot prices onto a market speculator. In principle, the forward sale of slots might even be a way of helping to finance investment in new airport capacity. While this is not to say that such markets would not develop under a bilateral trading system, they are likely to do so more rapidly if an organised market arrangement is already in place.
- 2.54 Of those respondents who commented on this topic, BA and M-Co agreed that it is an open question of whether there may be potential demand for a futures market in slots. However, the CAA cannot identify any argument why it may not develop as the market becomes more sophisticated and therefore believes it is a valid criterion against which to assess different means of implementing secondary trading.

- While the use of a slot market as a risk management tool may seem unrealistic in the short run, its future development should not be underestimated nor precluded in legitimising secondary trading.

Other Criteria

- 2.55 In addition to the above criteria identified by the CAA, some responses to the consultation papers identified further criteria that they considered represented valid criteria:
- Effects or impact on contestability of the market;
 - Whether the secondary market could be used to incentivise the provision of new airport capacity;
 - Impact of the secondary market on the Airport Managing Body's commercial interests; and

- Whether a particular regime would encourage the trading of slots more than others.
- 2.56 The CAA acknowledges that if secondary trading was implemented without an adequate level of transparency it risks legitimising a system where contestability may be adversely affected. However, with widespread industry support for a high degree of transparency in a legitimised secondary market, the opportunity to implement a degree of transparency significantly higher than the present grey market offers suggests that trading in whatever form can only improve the contestability of the market.
- 2.57 The CAA believes that the issue of whether a secondary market should in some way incentivise the provision of new airport and how the market may impact on an airport's commercial interests is more an issue of the distribution of the scarcity rent which lies behind slot values rather than providing credible incentives for airport development. The distribution of scarcity rents between different parties is clearly a policy decision for the State.
- 2.58 JMC was concerned that legitimising secondary trading risked providing a financial disincentive to future runway capacity growth because, as capacity was added, all of those involved in the market would suffer transactional, or balance sheet losses in the process. However, with the majority of slots likely to be held by airlines as opposed to airports, any devaluation effect of airport expansion is unlikely to be significant in an airports decision to expand.
- 2.59 The CAA agrees that different formats of secondary trading may have different effects on participants' willingness to trade. The CAA has throughout the paper attempted to identify those factors that are most likely to impact on the willingness of participants to trade.

The case for an “official” market

- 2.60 In its response ACL, the UK slot coordinator, suggested that the State ought to facilitate the establishment of some sort of ‘official’ organised market. It seems to us that any case for the EU or the State to facilitate the initial establishment of some sort of “official” organised market (either mandatory or voluntary) rests on four main arguments:
- **Information:** Considerable uncertainty exists at the moment as to the true value of slots. It is likely that price transparency through an organised market, particularly in the early years of trading, would provide for a more efficient outcome than would bilateral trading.
 - **Transaction costs:** An organised market may reduce transaction costs (particularly search costs) sooner due to a greater amount of information being publicly available.
 - **Safeguards:** A key advantage of an organised market is the ability to impose transparent rules on trading behaviour in advance. For example, if slot coordinators required a short restriction on trading immediately prior to a slot conference to finalise an airports capacity, such a rule could be easily implemented across all trading.
 - **Equity:** Smaller participants may be more likely to rely on an organised market arrangement where search and bargaining costs would be minimised. Were

larger airlines free to trade “off-market” the liquidity of an organised market would be significantly reduced.

2.61 Whilst there would be benefits, as outlined above, from establishing an organised market at the outset, it remains unclear why such advantages would not drive market participants or market operators to establish an organised market themselves. Were transaction costs to prove too high under a bilateral trading regime, market participants would share a mutual interest in reducing the costs associated with trading and in cooperating in the development of an organised market themselves.

- The State should avoid establishing an “official market” through which all trading would have to occur. If there are commercial advantages in participants trading through an organised market, commercially driven companies (or the participants themselves) will establish such a market.

3. Adequacy of competition law to guard against anticompetitive behaviour in a secondary market

- 3.1 With a move to more market based (as opposed to administrative) mechanisms to allocate slots, it is important to ask whether competition law is sufficient to protect competition in related markets.
- 3.2 The CAA starts from the presumption that competition law, as in other sectors, should be the first line of defence against anti-competitive behaviour and that regulation (particularly with competition objectives) should only be contemplated where competition law has been proved inadequate and it is clear that the benefits of regulation outweigh any costs.
- 3.3 Most respondents agreed that the application of competition law would be sufficient and preferable to ex-ante regulation in the slot market. BA does not consider slots to have any unique characteristics that prompt the need for slot specific regulations to address competition objectives and BAA, sceptical of ex ante intervention in the slot market, would prefer to see reliance placed on general competition law. However, Virgin did not consider that the prohibition of abuse of dominance in competition law was adequate to protect against anticompetitive behaviour and advocated the need for caps to be placed on the number of slots held by dominant carriers (or groups of carriers).
- 3.4 Below we briefly consider some of the key elements of competition law and discuss how they might be applicable to a secondary market in slots.

Market Definition

- 3.5 Competition law is always judged against the background of a properly defined relevant market. In determining the relevant market an assessment is made of both the goods and services that form part of the market and the geographic extent of the market.
- 3.6 As accepted by most respondents, the relevant market in applying competition law to slot trading would most likely be the downstream retail air service market, rather than the market for slots itself. This is because the demand for slots is derived from the market for air travel meaning any incentive to behave in an anticompetitive manner will be related to exercising or gaining market power in the provision of air services (i.e. the retail level). Without retail-level market power there would be little incentive for abusive behaviour in the market for slots. So whilst competition authorities would not be precluded from looking at say a slot market at an airport level, it is more likely that such a market, being a vertically related input market to air services, would be the target of any abusive behaviour rather than the source of dominance.

- The CAA can see no intrinsic reason why competition authorities could not adequately define a relevant market for the purposes of applying competition law to slot trading. Whilst the CAA believes that it will be dominance at the retail level that will be assessed for the purposes of applying competition law, there would appear no obstacle to competition authorities also investigating dominance concerns on a route, airport or network level.

Dominance

- 3.7 The most frequently cited potential problem for a market in which slots are openly traded is that there may be an incentive for a single airline (or alliance) to acquire all or most of the slots at a congested airport. It is argued that an industry with the structure of international civil aviation it is possible that market-based systems might lead to consolidation, rather than reduction, of an incumbent's slot holdings.
- 3.8 Both European and UK competition laws prohibit the abuse of a dominant position. Under Article 82 of the EC Treaty any abuse of a dominant position by one or more undertakings (either within the Common Market or a substantial part of it) is prohibited where it affects trade between Member States. Chapter II of the UK Competition Act 1998 mirrors very closely the wording of Article 82 and prohibits conduct by one (or more⁸) undertakings that amount to an abuse of a dominant position in a market if it may affect trade within the United Kingdom.⁹
- 3.9 A "dominant market position" has been defined by the European Court as:
- "a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of consumers"¹⁰.
- 3.10 "Collective dominance" may also be relevant given that Chapter II of the UK Competition Act 1998 refers to particular conduct "by one or more undertakings". As such, it will be important to consider the extent to which market positions ought to be viewed by airline or by alliance/parent-subsidiary groupings. The existence of alliances, subsidiaries, and even franchise operators,¹¹ may lead to slots being rationalised and transferred between airline groupings more readily and as a consequence issues of both joint dominance (under Chapter II) and the competitive effect of agreements to transfer slots between alliance members (under Chapter I) may arise. However, alliances are likely to be best dealt with on a case-by-case basis as much would depend on the nature of the arrangement.

- The abuse of dominance is clearly prohibited by EU and UK competition law. The CAA can see no reason why such laws would not adequately address the abuse of dominance in the slot market.

Possible Controls on acquiring dominance

- 3.11 The UK Fair Trading Act definition of "a merger situation" is very wide and covers many different kinds of transactions and arrangements. It is accepted that the transfer or pooling of assets may give rise to a merger situation.

⁸ The Competition Act contemplates both sole and joint dominance. While the application of Article 82 to single firm dominance is well established in EC jurisprudence, there are fewer EC precedents in relation to joint dominance (both Article 82 and the ECMR case law on joint dominance are applicable under the CA98). The OFT guidelines say that a dominant position may be collective when two or more legally independent undertakings are linked in such a way that they adopt the same conduct in the market. The links may be structural or they may be such that the undertakings adopt the same conduct in the market.

⁹ The Director General of Fair Trading has a duty under section 60 of the Competition Act to handle cases in such a way as to ensure consistency with Community law.

¹⁰ Case 27/76 United Brands v EC Commission [1978] ECR 207

¹¹ However, this is likely to depend on particular franchise agreements. The UK Competition Commission in the CityFlyer report considered that there were "substantial limitation(s) to BA's ability to control its franchisees' slots".¹¹ Such a conclusion appeared to rest on the assessment of rights contained in the franchise agreement and, in particular, the inability of the franchiser to compel the franchisee to use a slot for a particular purpose or prevent it from operating a route outside the franchise.

- 3.12 A merger situation that qualifies for investigation under the UK's merger regime must meet four criteria:
- Two or more enterprises (business activities of any kind) must cease to be distinct;
 - At least one of the enterprises must be carried on in the UK or by or under the control of a body corporate incorporated in the UK;
 - The merger must not yet have taken place or must have taken place not more than four months before the date of any reference made to the Competition Commission (unless it was made without a public announcement or the relevant authorities being informed); and
 - Either (1) the enterprises together have a share of supply in the UK of 25% or more (the share of supply test), or (2) the gross value of the worldwide assets being acquired must be more than £70 million (the assets test).
- 3.13 While it would obviously be first for the Director General of Fair Trading (DGFT) to consider whether a sale of slots would give rise to a qualifying merger, it is possible to speculate on the sorts of issues that may need to be considered. First, is the question of whether the sale of slots (as tradable assets) can be seen as resulting in two enterprises ceasing to be distinct. The concept of an "enterprise" is a different concept than an "undertaking" and is regarded as a flexible concept able to capture the transfer of business assets. For example, the sale of a power station from one electricity company to another meets the criteria despite the two undertakings continuing to exist. It is caught due to the power station being considered a stand alone "enterprise". What is uncertain is whether a bundle of slots could be seen in the same light as a distinct "enterprise".
- 3.14 Another issue concerns the applicability of the 25% supply threshold that is assessed (for the purposes of jurisdiction) in the context of a rather flexible concept of a "reasonable description of goods or services"- a concept distinct from an economic market. For example, the sale of a bundle of slots could increase the share of supply held by a particular airline of services on a route above the relevant threshold. Alternatively, acquiring slots could bring the share of supply held by an airline of all services at an airport above the relevant threshold.
- 3.15 If the UK merger regime was considered to apply to slot transactions, the following type of slot transactions would appear to be caught:
- An airline purchasing slots which took it to 25% or more of total slot holdings at an airport(s);
 - Significant slot acquisitions by those airlines already holding 25% or more of slots at an airport(s);
 - Large packages of slots that together are valued at over £70 million.
- 3.16 The merger provisions also make allowance for considering a series of transactions within a single two-year period simultaneously on the date of the last transaction. Therefore, the possibility exists that the criteria could be met by the accumulation of a series of slot acquisitions.

- 3.17 For similar reasons the EC Merger Regulation (“ECMR”) may also be relevant. This Regulation gives the European Commission power to control a “concentration with a Community dimension” (determined by reference to turnover requirements). In particular, the European Court has confirmed that European merger regulations apply to “oligopolistic dominance” i.e. to a situation where a merger would not create a single dominant company, but would create an oligopolistic market structure that would significantly impede effective competition within the EU.
- 3.18 Again there were mixed views by respondents on whether merger controls, if applicable, would be an appropriate measure to deal with anti-competitive slot acquisitions. For example, BA and BATA did not consider merger controls as appropriate, while Manchester Airport thought that the case-by-case approach offered by merger analysis might make it an appropriate measure.

- While it is clearly a matter for the DGFT as to whether UK merger regulations would be applicable to slot purchasers, if they were considered applicable they would appear to provide an effective mechanism to guard against the acquisition of significant slot holdings that could adversely effect competition. Even where merger controls were not considered applicable, more general application of competition laws, both by competition authorities and third party actions, would allow competition issues to be considered and, where appropriate, specific and targeted remedies to be imposed.

UK Fair Trading Act

- 3.19 To complete the picture for dominance in the UK, it is also necessary to recognise the provisions of the Fair Trading Act 1973 dealing with monopolies. These provisions have been retained notwithstanding the introduction of the new Chapter II prohibitions in the Competition Act.
- 3.20 The DGFT may examine scale or complex monopolies and can make a reference to the Competition Commission in order to establish whether a monopoly situation exists and, if so, whether it operates, or may be expected to operate, against the public interest.¹² Although the DGFT may not make a reference in relation to air navigation services or international carriage by air (otherwise than on a charter flight) Ministers acting jointly may make a reference of these services.
- 3.21 A scale monopoly exists, inter alia, if a single company (or a group of interconnected companies) supplies or acquires 25% or more of the goods or services of a particular type in all or part of the UK. A complex monopoly situation exists where a number of companies which are not connected and which together account for at least one quarter of the supply or acquisition of any particular description of goods or services in all or part of the UK, engage in conduct which has or is likely to have the effect of restricting, distorting or preventing competition.
- 3.22 Ultimately, the Secretary of State retains wide powers under the Fair Trading Act including the ability to order industry-wide structural remedies such as divestment, which in particular cases may allow for more useful remedial powers than the UK Competition Act.

¹² Section 50 of the Fair Trading Act

- The UK Fair Trading Act would appear to provide an additional layer of protection that could affect a structural remedy of the divestment of slots in situations where significant slot holdings were considered to constitute scale or complex monopolies.

The Regulatory “solution”

- 3.23 A regulatory solution to prevent the accumulation of a dominant slot position by a single airline would be to impose restrictions on the buying and selling of slots above certain “slot caps”. (Virgin Atlantic) advocated the need to implement slot caps in a market to limit the dominance of individual carriers. Drawing an analogy with the upper limits placed on the amount of radio spectrum able to be won in recent auctions throughout Europe, they supported the implementation of caps on the number of slots held by dominant carriers (or groups of carriers) as well as on the proportion of slots held in peak periods.
- 3.24 The rationale for placing a cap on an airline’s slot holdings would appear to be based on two underlying assumptions: that a high concentration of slots is by definition bad and that an undertaking with a dominant position will abuse it. To determine the validity of the first assumption it would be necessary to undertake a proper cost/benefit analysis of the relative effects of slots being held by airlines with high and low levels of slot concentration. Relevant factors for assessing this include the benefits to consumers of network operators, the presence of competitive pressures from substitutable airports and modes of transport, and the alternative projected airline schedules that could result from where slots were deferred away from airlines with a high concentration of slots. As regards the second assumption, even if slot trading were to result in the larger airlines holding a higher concentration of slots, as in other industries, it is not valid to simply assume that any dominance will be abused. Rather, allegations of abuse should be assessed on a case-by-case basis.
- 3.25 The CAA believes that to place any form of cap on an airline’s slot holdings risks imposing a significant restriction on the market and provides a distorted means to protect against anti-competitive behaviour. This may be particularly so in an environment of hub and spoke network competition. Competition law, with its ability for competition authorities and competitors to scrutinise slot acquisitions on a case by case basis, would appear better equipped to distinguish between efficiency enhancing and abusive slot acquisitions.

- The CAA considers the placing of slot caps to be a second best alternative to the application of competition policy in guarding against anticompetitive slot acquisitions. The CAA questions the practicality of being able to determine optimal slot cap levels across EU airports given the present differences in slot holding percentages across EU airports and doubts whether intervention would be limited to slot caps for all slot holdings across an airport and may, for example, extend to slot caps on an hourly basis.

Guarding against the Abuse of a Dominant position

- 3.26 Where an airline held or was allowed to gain a dominant position in a downstream market reliance would then fall to the Chapter II/ Article 82 behavioural provisions to guard against those practices that might be an abuse of dominance in the slot market. Below we set out three commonly expressed concerns of how an airline with a dominant position could attempt to abuse its position in the slot market and speculate whether competition law could address the problem.

Foreclosure of a Slot market

- 3.27 Any strategy by an undertaking to foreclose others from the slot market in the UK would appear to be a very expensive, given that no airline presently operates more than about 50% of available slots at any UK congested airport.
- 3.28 Nevertheless, it seems reasonable to suppose that everything else equal a hub carrier will value a slot more highly than competitors and will be in position to always outbid competitors. It is true that a hub carrier may benefit from a new slot through cost reductions (from enhanced network economies of scope and density), the revenue benefits of transfer traffic or an increase in market power. Nevertheless, its valuation of a slot will also depend upon a number of factors¹³ including whether it has higher costs than others operating (or wishing to operate) at the airport, to what extent it has already exhausted economies of density and/or run out of profitable opportunities to expand and the nature of the hub in question.
- 3.29 Furthermore, in the case of UK airports the economic rent able to be extracted by an undertaking with a significant slot holding is likely to be “scarcity” as opposed to “monopoly” rent which is, for a variety of reasons, unable to be appropriated by the airport operator. Therefore, an airline or airline grouping may be acting rationally in attempting to accumulate slots in an effort to recreate the potential, but unexploited, market power of the airport.

Denial of spare or clearly inefficiently used capacity

- 3.30 A dominant airline might abuse its position by refusing to sell surplus slots or asking monopolistic prices for slots it wishes to sell. The US Department of Justice expressed this sentiment in the application by American Airlines and British Airways plc for antitrust immunity. The DOJ said:¹⁴

“Moreover, whether current holders would be willing to sell to US carriers at prices equivalent to those that would prevail in an open and competitive slot market is doubtful. Certainly, AA and BA (which hold about 42% of all LHR slots) will be unwilling to sell any slots to potential competitors at prices the competitor would be willing to pay. AA and BA know that any US carrier would use a slot in competition with them on some US route. As long as AA and BA can use the slot themselves, there is no possibility that a US carrier can buy a slot from AA/BA. In essence, the US carrier would not only have to pay AA/BA the scarcity rent (or opportunity cost) of the slot, but also the expected loss to AA and BA from additional competition, which would make buying a slot a poor investment for a US entrant.”

- 3.31 This would appear to be a problem relating only to dominant airlines, as non-dominant airlines have no power to prevent their rivals from obtaining slots from other sources and therefore would have little incentive to hoard slots under a market system. However, competition law, other than in clear examples of essential facilities, does not in general regard the refusal to make available key business assets to competitors a breach of competition law. In fact, a dominant incumbent may only be willing to give up surplus slots

¹³ Of course some reasons, such as network benefits, may justify slots being held by a hub carrier on economic efficiency grounds. Other reasons, such as the desire for increased market power in downstream aviation markets, may however be detrimental to economic efficiency.

¹⁴ <http://www.usdoj.gov/atr/public/comments/1777.htm> at p 21-22

at a price that compensates it for any adverse effects on profits from greater competition, a principle recognised in regulatory economics as the Efficient Component Pricing Rule.¹⁵

- 3.32 Historically, the use-it-or-lose-it provision in the slot regulation has been applied to prevent airlines “slot piling” or acquiring slots for use in the future. However, the effectiveness of the regulation may be questionable given that slots can technically be hoarded in a number of ways, including operating deliberate loss making services or utilising smaller aircraft. Despite this, most respondents thought the use-it-or-lose-it rule was a valuable safeguard in discouraging slot piling and ought to be retained, at least until alternatives were proven.
- 3.33 Another issue raised was whether competition law could provide fast enough relief in instances of abusive behaviour. However, competition law does provide for interlocutory relief, which would seem capable of addressing urgent applications of competition law.
- 3.34 The CAA considers that the efficient solution to any slot-piling problem is to ensure that an airline faces the full opportunity cost of holding slots. In a competitive market there should be no incentive to hoard slots as the price reflects the expected present and future value of the asset. Where the market for slots is not fully competitive (e.g. because the initial allocation of slots creates a dominant airline at a congested airport) there remains an incentive for airlines to use their slots on a low profit route rather than risk selling to a rival who could then enter on the airline’s most profitable routes.

Granting access on less favourable terms

- 3.35 It could also be a breach of competition law for a dominant airline to lease surplus slots to competitors with restrictive covenants. Such restrictions, such as the use of a slot for domestic flights only, would appear to place the lessee at an obvious competitive disadvantage.

- The CAA considers there to be little evidence that the application of competition laws relating to the abuse of a dominant position cannot adequately guard against the forms of anticompetitive behaviour identified above which may be possible in a slot market.

Anti-competitive agreements

- 3.36 In addition to competition and merger laws addressing positions of dominance, UK and European competition laws also prohibit anti-competitive agreements. Chapter I of the UK Competition Act, which mirrors very closely the wording of Article 81 of the EC Treaty, prohibits agreements between undertakings, decisions by associations of undertakings or concerted practices which:
- May affect trade within the UK (or a part of it), and
 - Have as their object or effect the prevention, restriction or distortion of competition within the UK (or part of it).
- 3.37 There presently exists a block exemption from Article 81 under EU law for agreements relating to slots. A parallel exemption therefore exists for the UK Competition Act meaning that both Chapter I and Article 81 would have limited applicability to slot trading.

¹⁵ Although this principle, originally proposed by Baumol and Willig, has been upheld in other jurisdictions it remains untested under the UK’s Competition Act 1998.

3.38 Further analysis therefore is required as to the extent legitimising secondary trading increases the likelihood or opportunities for traders to reach anticompetitive agreements, considering that without the EU slot exemption Chapter I of the Competition Act would prohibit the following:

- Any agreement that seeks to restrict, or has the effect of restricting, price competition will infringe the prohibition. This includes agreements for example to adhere to published price lists or not to charge less than any other price in the market.
- The joint setting of terms and conditions of sale that directly fix or restrict prices will clearly be anti-competitive.
- Information exchanges between airlines could have an appreciable effect on competition where they are effectively used to remove any differences between competitors and therefore reduce competition between them;
- Agreements between competitors that divide markets by geographical territory or allocate market sectors or customers as between airlines will potentially be in breach of the Article 81/ Chapter I prohibition. Thus any slot transaction that restricted the future use of slots, for example, for use only in connection to domestic flights, may be caught.

- Whilst the dominance provisions of EU and UK competition law would appear to apply in full to slot trading, an EU exemption for dealings with slots means that the prohibitions on anticompetitive agreements contained in Article 81 and Chapter I would have limited applicability. Therefore an assessment is required of the risk and effects of how a legitimised secondary market in slots may further the ability of participants to reach anticompetitive agreements that would otherwise be in breach of competition laws.

4. Appendix 1: The present UK grey market in slots

4.1 The present grey market appears to have the following general characteristics:

Immature	Despite the Guernsey decision, there exists some uncertainty regarding the legality of slot trading in the present grey market (particularly by foreign carriers). There is also little understanding of the real demand for slots given requests to ACL for slots are unlikely to be a true reflection of actual demand.
Circumvention of restrictions on trading	In addition to the grey market which has developed, the other obvious means by which airlines have circumvented the uncertainty over cash trading has been for airlines to acquire the entire business of airlines including all slot holdings. It has been suggested to the CAA that in Europe this has been the most prevalent means of acquiring slots at congested airports.
Non-standardised	Slots appear to be traded by a variety of formal and informal instruments. Trading has involved both the permanent and temporary transfer of slots.
Low volume	The volume of slots traded in UK airports on the grey market is very small relative to overall slot holdings, possibly as a result of market immaturity. Despite the airline industry being a mature industry and therefore well positioned to make rational valuations (at least in terms of earning potential) some market participants question whether airlines act rationally in their behaviour with slots. For example, Heathrow slots may carry some emblematic status for some airlines which could result in airlines refusing to sell slots even where potential buyers are willing to pay more than the incumbent's commercial value (i.e. where it is economically rational for them to trade). Other factors which may contribute to irrationality are the presence of state owned airlines and the fact that the value of slots remain absent from airline balance sheets.
Intra-alliance	As alliances have grown so too has a reluctance to trade slots outside of an alliance. Cash trades, as opposed to retimes, are reported to be rare outside of an alliance grouping.
Role of the Slot Coordinator	Coordinators maintain databases that indicate at every point in time which airlines hold rights over which slots. If two carriers agree to swap slots, they inform the slot Coordinator who checks the operational feasibility of the swap and makes the change in the database. Upon being approached by airlines with slot requirements the Coordinators may attempt to identify complementary multilateral arrangements and in this way may create synergistic trades between a number of airlines.
Barter trading	Even where slots are traded in the grey market, pure cash for slot transactions are reported to be rare. Some slot transactions instead involve barter trading or a "double coincidence of wants" which means the "price" of slots could be anything from a code share arrangement between the airlines to slots at another airport.
Ad-hoc spot market	In respect of short term availability and temporary demand, some Coordinators already place short term availability on their website to be acquired on a first-come-first-served basis. With a 97% slot use rate at airports such as Heathrow, unused slots are said to be able to absorb much of the short-term demand which is largely driven by one-off events.
Transaction costs	The present grey market obviously works on the basis of simple bilateral trades (and possible multilateral trades if wider deals are identified). Potential sellers and buyers are identified and privately sought out as opposed to any public notice of intended sale or purchase which is likely to deny all interested parties an opportunity to participate. This (along with the fact that a lack of transparency makes it difficult for buyers and sellers to establish a market price for slots) is likely to suggest that transaction costs may be high.