

## Cost to airlines of switching airports

### Summary and conclusions

1. Switching costs are costs that are incurred by airlines when changing airports, but which are not incurred by remaining with the current airport.
2. Airlines may experience switching costs due to one-off costs of physical relocation of operations to a new airport and/or to having entered into long-term commitments and/or to the loss of economies of scale:
  - (a) Physical relocation of operations to a new airport may give rise to start-up expenses including staff recruitment/redundancy costs if the airports are a substantial distance apart. There are also some one-off costs in basing aircraft at a new airport (for example, relocating existing flight crew to the new airport for a temporary period could be costly if the airports are a substantial distance apart). However, the aviation sector continues to grow, with some airlines having large numbers of new aircraft on order, and additional costs will not arise where the change is merely that planned new routes that would otherwise have gone to one airport go to another (from which the airline is already operating).
  - (b) Our airline survey shows evidence of longer-term commitments where freight carriers have invested in a hub operation at a particular airport that consolidates small consignments for transport to other countries. Some passenger airlines, in particular LCCs, often agree multi-year contracts under which the airline negotiates lower prices in exchange for a particular volume of business, but such commitments do not extend beyond the end of the contract period. Passenger airlines, in particular legacy carriers at their main base, may also enter into long-term commitments in relation to maintenance costs. In well-functioning markets, carriers and airports would generally be expected to negotiate appropriate contractual arrangements that protect the investments of both parties.
  - (c) Loss of economies of scale could arise when switching involves splitting an existing single airport operation between two airports, of which one operates at sub-economic scale. No such loss would necessarily occur if an airline already had operations at two airports and switched routes between them.
3. Switching would usually be understood as purchasers moving some or all of their business between competing suppliers of a substitutable product but, in an airports context, switching may involve moving routes between weakly or even non-substitutable airports. That means that in addition to the more usual switching costs of the kind outlined above, there are market effects that may act as obstacles to switching. Where switching involves an airline stopping services at one airport and starting new services at an airport with a different catchment area, it may incur additional marketing costs in promoting the routes to potential passengers in that catchment area. Additionally, it may also expect to obtain lower yields in the early years as these routes take time to develop. However, these market effects would be transitory (and may be partially offset if airports offer discounts to new airlines and/or on new routes). They would also be likely to be smaller in the case of neighbouring airports with overlapping catchment areas. A more lasting market effect would be any loss of yields due to the switched-to airport having a less attractive location because of such factors as geographic position or the level of competition from airlines already operating there.

4. Airport competition is associated with very marked differences in net prices, with based airlines tending to benefit from very low airport charges, but charter and non-based scheduled airlines paying rather higher charges, above BAA airports other than Heathrow (see paragraph 7.121). This suggests that switching costs as such are not likely to be a barrier to competition but the key issue is the extent to which airlines have bargaining power—for example, from their ability to bring new passengers, and subsequently take them away—and can sign long-term contracts to protect their airport- and route-specific sunk costs.
5. There are some additional factors that affect the possibility of airlines switching services to and from BAA's London airports:
  - (a) Network effects arise at Heathrow, as it is a hub where passengers connect between flights. Consequently, switching away from Heathrow may be costly to airlines if it leads to a loss of profitable transfer passengers, although this would be at least partially offset by gains from the sale of slots. Furthermore, Heathrow is the only airport in the South-East with two parallel runways and thus a suitable base for a large airline such as BA.
  - (b) The existence of capacity constraints makes it difficult to transfer services between some London airports. Heathrow and Gatwick slots are traded on a secondary market but the slot market appears to be illiquid and this may make it difficult for airlines to acquire a suitable portfolio of slots at another airport matching that which the airline already has at its existing airport. The existence of capacity constraints also reduces the threat to the airport of switching, as services withdrawn by one airline can be replaced by services from another airline.
  - (c) Reflecting capacity constraints and network effects, airline evidence also tended to emphasize the importance of the London airports and/or Heathrow specifically to their operation. Thus Ryanair told us that the importance of the London area to its network was such that it had to serve that market, and had therefore to operate from BAA's airports to do so. Many full-service airlines made the point that Heathrow was advantageous compared with other South-East airports both because of network effects and also because Heathrow was preferred by many terminating passengers, in particular business passengers, with the result that Heathrow flights obtain higher yields.
  - (d) The competitive significance of long-term commitments may also be greater. If an airline enters into long-term commitments or incurs sunk costs at a price-capped airport in the expectation that price caps continue, it may become captive at least for a time if the price cap is subsequently removed. This contrasts with the position elsewhere, where airlines and airports would generally be expected to have negotiated appropriate contractual arrangements that protect the investments of both parties.

## **Introduction**

6. A change in price or quality of an airport's services can affect demand for that airport in two ways: directly, through airlines switching services between airports, and indirectly by affecting passenger choice of airports. Airline switching of services between airports may be affected by switching costs.

7. Switching costs can be defined as the costs that are incurred when changing supplier, but which are not incurred by remaining with the current supplier.<sup>1</sup> The existence of switching costs may mean that suppliers can charge high prices to captive customers but may also intensify the competition for new customers. In the current context, we are concerned with costs incurred when changing airport, but which are not incurred by remaining with the current airport (we are abstracting from any additional issues arising from one supplier, BAA, owning a large number of airports).
8. There are a number of reasons why airlines may find it difficult to switch airport including:
  - (a) conventional switching costs arising from sunk investments and contractual commitments;
  - (b) loss of economies of scale which may arise as a result of operating from an increased number of airports;
  - (c) network effects which arise because passengers transfer between flights, in particular at Heathrow; and
  - (d) reduced revenue or increased costs arising from switching services to a less suitable airport, whether because of geographical location or other factors.

We consider each of these in turn.

9. This appendix summarizes the evidence we have received on switching costs. In general, the extent of switching costs is likely to be dependent on individual circumstances. In this context, airlines at a particular airport may come into one of three main categories:
  - (a) full-service airlines with a main operating base at the airport (for example, BA, bmi and Virgin Atlantic at Heathrow);
  - (b) low-cost or charter airlines basing their flight crew at the airport (the base of the flight crew is important in particular to LCCs—such as easyJet and Ryanair—as their current business model avoids flight crew staying overnight at destination airports); and
  - (c) airlines flying into and out of the airport with aircraft based elsewhere.

These are not mutually exclusive: LCCs with many bases may have aircraft based at an airport and also fly into it from other bases.

## **Contractual commitments and sunk investments**

10. Where airports compete for airline business, it is common for airports and airlines to agree multi-year contracts under which the airline pays airport charges varying with volume of business. In general, longer-term contracts can reduce uncertainties to both buyers and sellers, encourage investment and reduce costs and prices. In the context of airports, such contracts are likely to provide airports with a degree of assurance over volume and airlines over charges. Longer-term contracts between airports and airlines make it more expensive for airlines to switch airport during the

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<sup>1</sup>*Switching costs*, A report prepared for the Office of Fair Trading and the Department of Trade and Industry by National Economic Research Associates, OFT Economic Discussion Paper 5, April 2003:  
[www.offt.gov.uk/shared\\_offt/reports/comp\\_policy/oft655.pdf](http://www.offt.gov.uk/shared_offt/reports/comp_policy/oft655.pdf).

contract term, but not at contract expiry. Since contract length is negotiated and such costs do not arise at contract expiry, they do not meet the definition of switching costs in paragraph 7 and we do not consider them further.

11. At airports with a binding price cap (Heathrow, Gatwick and recently Stansted), airports and airlines do not tend to agree longer-term contracts for basic use of the airport as there is no benefit to the airport from agreeing prices below the cap and no benefit to airlines from committing to particular level of volume.<sup>2</sup> However, at these airports (as well as others) airlines may enter into longer-term commitments to the extent that they themselves incur sunk costs and/or enter into longer-term contracts on matters other than airport charges which are specific to the airport in question. Of course, the decision as to whether to enter into such longer-term commitments is made by the airline itself (for example, airlines might wish to harmonize expiry of such commitments with each other and with any contract affecting airport charges and volume). Nevertheless, where such commitments expire at different times, airlines would be unable to avoid incurring some additional costs due to switching airport. This may be relevant to the potential market power of currently price-capped airports if the price caps were removed (for example, if airlines entered into longer commitments in the expectation that the price cap would continue).

### ***Contractual commitments***

12. In order to assess whether this could be material, we asked airlines for information on the extent of payments to BAA and other costs incurred attributable to their traffic movements at that airport. Available responses are summarized, together with some other basic information, in Annex 1 (responses are incomplete and do not include any charter carriers or the two largest LCCs). The results suggest that payments to BAA for services other than airport charges (for example, property rental) were more significant at Heathrow—where they amounted to about half of BA's airport charges and just under a quarter on average for other airlines—than at BAA's other airports, where other payments amounted to 10 per cent or less on average of airlines' airport charge payments (except for BA's payments at Gatwick which again amounted to about half of its airport charges). Other costs incurred by airlines at airports were more significant: in many cases, airlines reported that they were similar to airport charges (however, it is likely that other costs are much lower for LCCs and charter airlines). BA reported very high levels of other costs—about eight to nine times airport charges at Heathrow and Gatwick, and double airport charges at the other BAA airports from which it operated.
13. We also asked airlines for brief details of any contracts over three years' duration, including key terms relevant to whether costs associated with the contracts can be avoided in the short, medium and longer term. Results are shown in Annex 2 (left-hand panel). In relation to passenger handling, this seems to suggest that airlines have few long-term commitments in the form of long-term contracts without break clauses that are specific to particular operations. Where there are such longer-term commitments, they might deter switching if airlines are unable to assign the lease to another airline that wishes to increase its operation at the airport. This is clearly difficult to assess: it may well be that airlines could expect to find alternative tenants but that it would take time to find them, although this will depend on the strength of

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<sup>2</sup>Prior to April 2007, the majority of BAA's traffic at Stansted was covered by agreements with individual airlines holding airport charges below Stansted's published tariffs, and Stansted's published tariffs were also set below the level implied by its price cap. In April 2007, most of these agreements ended and BAA also set tariffs to recover Stansted's full price cap (before correcting for under-recovery in the previous four years due to Stansted's tariffs being below its price cap). We are aware that subsequently BAA has agreed volume-based incentive packages for 2009 with some Stansted airlines.

demand at the relevant airport.<sup>3</sup> The impact of longer-term commitments on switching is consequently likely to be greater when demand is weak.

14. There is more evidence of longer-term commitments in relation to freight handling (by BA at Heathrow and FedEx at Stansted). Because of the specific nature of these freight operations, it also seems less likely to be possible to find alternative tenants to take on the commitments.

### **Sunk investments**

15. We also asked airlines about the extent of capital invested at each BAA airport (see Annex 1). In general, we found little evidence of passenger airlines having invested significant amounts of capital in connection with their operations at BAA airports<sup>4</sup> (few airlines provided information on the value of their assets but this is not surprising if their investments are modest).
16. There is, however, evidence of sunk costs for full-service airlines at their main operating base, and for freight airlines:
  - (a) BA told us that it had sunk very large investments at Heathrow: to reprovide BA's maintenance facilities elsewhere would cost about £1 billion; that it had invested some £800 million in its new world cargo terminal, in bespoke facilities in T5 and in its Heathrow-based corporate headquarters (including its global operations centre) in the last ten years.<sup>5</sup> We note, however, that it is not entirely clear that all these investments are specific to BA's Heathrow operation (as they might continue to be used in response to a switch of a part of BA's operation away from Heathrow), nor that they would be irrecoverable if BA ceased to use them—it might be able to recover some or all of its investment by selling or leasing the assets to other parties, including other airlines.
  - (b) Freight operators, such as FedEx [✂], appear to have significant sunk investments in their hubs at Stansted.<sup>6</sup>

### **Staff costs**

17. Some airlines also suggested that they had long-term commitments to staff which gave rise to switching costs. BA suggested that, while employment contracts were not usually airport specific, in practice many staff would be unable or unwilling to move to another airport. Similarly, easyJet suggested that there could be relocation or redundancy costs associated with switching flights to a different airport. easyJet also pointed out that, in order to start an operation at a new airport, an airline was required to relocate existing staff there temporarily. Its analysis suggested that such staff relocation costs would be significant and would increase its costs considerably.
18. The extent of staff relocation or redundancy costs would depend on the extent of natural wastage and the length of time available to switch routes between airports. It is also likely to depend on the distance between the airports: it is unlikely that

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<sup>3</sup>It might also depend on whether switching is seen as a result of a failure of bargaining between the airport and an individual airline (in which case the airport might be expected to attempt vigorously to find replacement flights for those switched away) or as a result of the airport seeking to withhold landing slots from the market (in which case replacement flights would be much less likely).

<sup>4</sup>Ryanair did, however, say that the capital cost of a move from Stansted to Gatwick would be approximately £10–£12 million.

<sup>5</sup>The figure in Annex 1 reflects the book value of assets.

<sup>6</sup>Fedex indicated that it had invested about US\$24 million in its hub in 2000 and had a further £2.6 million in ground equipment. [✂]

switching flights between fairly close airports, such as Edinburgh/Glasgow, Stansted/Luton and Gatwick/Heathrow would give rise to the same extent of staff relocation or redundancy costs as switching flights to an airport in another country.

### **Loss of economies of scale**

19. A further issue raised with us, in particular by one LCC (easyJet), was that starting operations on a small scale at a new airport could involve diseconomies due to operating at smaller scale. Such diseconomies could arise in part because CAA regulations impose strict regulations on the hours of flight crew.<sup>7</sup> (Together with other constraints, for example on night flights, these tend to imply that flight crew on short-haul aircraft are changed at least once a day.) As a result, a smaller number of based aircraft flying fewer routes generally implies less efficient use of flight crew and other base-specific resources (since fewer routes are less likely to mesh well together with the limited hours of flight crew, while maximizing the limited crew hours limits the choice of routes available) and consequently lower revenue or higher costs. Hence, operating a given set of routes with aircraft based at each of two substitute airports would involve higher costs or lower revenue than operating them with aircraft based at only one airport.
20. A further similar reason for diseconomies of smaller-scale operation is that airlines need to have cover for unplanned staff absences, and this is likely to be proportionately greater, and hence more expensive, the smaller the operation. While flight crew can be 'dual based' at two airports, we were told that this was expensive because the flight hours of dual-based crew were reduced by one hour a day.<sup>8</sup> Costs may also be increased because, depending on the distance between the airports where they are based, dual-based crew are likely to have longer travel-to-work times. In the light of these factors, we were told that airlines rarely used dual basing.
21. Economies of scale may also arise in other airport costs. Responses to our airline questionnaire (see Annex 2, right-hand panel) tend to suggest that most costs are not directly variable in the short term with traffic levels. However, as noted above (see paragraph 13), contracts are in many cases fairly short term and this would imply that airlines can vary costs, at least to some extent, with traffic. For example, a number of airlines said that check-in desk rentals did not vary directly with traffic levels but that it was nevertheless possible for airlines to change the number of check-in desks if their route capacity changed as a result of a decision to switch routes to/from alternative airports.
22. Overall, it was suggested to us that economies of scale meant that it was more expensive to base fewer than three to five aircraft at an airport.
23. The existence of economies of scale could give rise to switching costs if an airline has all its aircraft based at one airport and wishes to switch one or two to another airport. However, economies of scale would not necessarily give rise to switching costs if an airline already has a number of aircraft based at both airports and wishes to switch, say, one between the airports. Furthermore, switching benefits rather than costs could arise if an airline already has a number of aircraft based at both airports and wishes to concentrate them at one of the two. Switching costs would obviously not arise in relation to flights using aircraft based at the destination airport.

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<sup>7</sup>There are daily limits of between 9 and 13 duty hours a day (depending on start time and number of flights), implying flying time of 1.5 hours less (the duty day starts at least 1 hour before first flight and ends at least 0.5 hours after last flight). Flight crew can also do no more than 900 duty hours a year and 100 duty hours per 28 days. The regulations are set out in CAP 371, paragraph 13.3.

<sup>8</sup>Dual basing also requires the CAA's permission.

## **Network effects**

24. Network effects arise because full-service airlines interconnect with each another (they offer through tickets covering flights of more than one airline).<sup>9</sup> Some airlines actively promote flight transfers at a hub airport, in particular between the airline's own flights and those of its alliance partners. Heathrow is an important hub for BA and its **oneworld** alliance partners. Other airline alliances (Star Alliance and SkyTeam) also provide connections at Heathrow, although their Heathrow operations are smaller than those of **oneworld**. Some passengers also transfer between airline alliances and/or with unaligned airlines, such as Virgin. In all, about 34 per cent of all Heathrow arriving and departing passengers are transferring flights, although this varies substantially between flights. Switching costs may then arise because moving flights away from Heathrow (to other airports in the South-East) may lead to a loss of transfer traffic and hence a loss of profits. However, airlines trade landing slots on the secondary market, with Heathrow's being more valuable than Gatwick's,<sup>10</sup> and the costs of switching away from Heathrow may be offset by the realization of slot values. We discuss this further below (see paragraph 29).
25. Heathrow is the only airport in the South-East with two parallel runways and thus suitable for a hub-and-spoke operation, such as that of BA. Consequently, BA cannot switch its whole hub-and-spoke operation to another airport. While this adds to the extent to which BA is locked into use of Heathrow (ie the dependence of BA on Heathrow), it is fair to note that BA's hub operation is also important to Heathrow and hence there may also be a degree of dependence of Heathrow on BA. In this context, it was suggested to us that the dependence of airports on hub airlines was illustrated by the effect of the closure of Swissair on Zurich Airport.

## **Market effects**

26. Conventional discussion of switching costs assumes that switching is between suppliers that are substitutes for one another (ie within the same market). Much of the evidence and debate regarding airlines switching between airports concerns switching between airports that are not necessarily good substitutes for one another. This evidence may, nevertheless, be relevant to our discussion of switching costs because airports are not perfect substitutes for each other and therefore costs arising from switching to airports with different characteristics may be relevant. (Furthermore, the costs associated with switching to airports in different geographic markets are also relevant to assessing airports' market power and the extent to which individual airlines may have bargaining power.)
27. Where airports are imperfect substitutes (due to location or other characteristics such as runway length), switching costs may arise because the switched-to airport has a less attractive location, with lower airline yields. Thus, while switching costs arising from network effects are one source of advantage that Heathrow has over other airports in the South-East, they are not the only one. Heathrow also tends to benefit from its position within Greater London, closer than other airports (apart from London City which has a short runway not suited to medium- and long-haul flights<sup>11</sup>) to the business districts of Central and West London and served by London taxis. As already noted, Heathrow's locational and other advantages are reflected in its slot values and consequently the costs of switching away from Heathrow may be offset by the crystallization of slot values.

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<sup>9</sup>Some airlines traditionally classified as low cost, for example Flybe, also offer interconnecting tickets.

<sup>10</sup>We have no evidence of positive slot values at other airports.

<sup>11</sup>Luton also has a shorter runway than BAA's London airports and cannot handle the largest aircraft.

28. Where switching involves an airline stopping services at one airport and starting new services at an airport with a different catchment area, it may incur additional marketing costs in promoting the routes to potential passengers in that catchment. Additionally, it may also expect to obtain lower yields in the early years as the new routes take time to develop. One airline (easyJet) estimated that, together with the staff relocation costs (see paragraph 17), these two effects had a marked impact on profits. However, the effects would be likely to be smaller if the airports were partial substitutes and their catchment areas overlapped. Moreover, the analysis assumes that existing routes are discontinued and is not relevant if an airline merely stops growing its number of routes at an airport and transfers new routes to the other airport (aviation demand continues to increase and many airlines start new routes). A further point is that airports often discount charges or offer marketing support on new routes and/or to new airlines, hence reducing the deterrent to airline switching.
29. A further factor relevant to switching in the South-East is that there are few available runway slots at Heathrow and Gatwick. ACL recently noted with regard to entry into transatlantic services that no pool slots were available at Heathrow so that entry would rely on the secondary market, but that at Gatwick suitable slots could be obtained by a determined new entrant through a combination of pool allocations and the secondary market.<sup>12</sup> The secondary market is in our view illiquid, as illustrated by a large apparent increase in Heathrow secondary market values of transatlantic slots occurring when demand for such slots increased following the Open Skies agreement (which enabled additional airlines to operate transatlantic services from Heathrow). The need to acquire slots on the illiquid secondary market may make it difficult for airlines to acquire a suitable portfolio of slots at another airport matching that which the airline already has at its existing airport and hence difficult to switch services between the two airports. In regard to Gatwick, the significance of this is likely to have varied over time with slots probably having become easier to obtain in the last year due to transatlantic services moving to Heathrow (following Open Skies) and as some airlines ceased Gatwick operations during 2008.<sup>13</sup> Although easyJet has built up a substantial share of Gatwick slots (its share has gone from less than 1 per cent in 2000/01 to about 25 per cent in 2008/09), mostly by acquisition from the pool, this has taken some years and easyJet has also acquired slots through purchases on the secondary market and, on a larger scale, via the purchase of GB Air. Switching between two airports is likely to be easier for an airline with significant slot holdings at both airports, as this provides additional flexibility in the acquisition or disposal of slots.
30. Reflecting capacity constraints and network effects, airline evidence tended to emphasize the importance of the London airports and/or Heathrow specifically to their operation. Thus Ryanair told us that the importance of the London area to its network was such that it had to serve that market, and had therefore to operate from BAA's airports to do so. Many full-service airlines made the point that Heathrow was advantageous compared with other airports in the South-East both because of network effects and also because Heathrow was preferred by many terminating passengers, in particular business passengers, with the result that Heathrow flights obtained higher yields.

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<sup>12</sup>ACL and BAA response to DOT questions in relation to request by American Airlines, BA and other airlines for approval of and antitrust Immunity for alliance agreements, at:

[www.regulations.gov/fdmspublic/component/main?main=DocketDetail&d=DOT-OST-2008-0252](http://www.regulations.gov/fdmspublic/component/main?main=DocketDetail&d=DOT-OST-2008-0252).

<sup>13</sup>Airlines ceasing operations from Gatwick during 2008 (other than due to Open Skies) include XL.com, Zoom, Oasis Hong Kong, Nationwide, African Safari Airlines and Sterling. ACL also state that Astraesus/Flystar and Centralwings ceased scheduled operations from Gatwick.

## **Airport pricing**

31. Where there are switching costs, existing customers may become to an extent captive and have to pay higher prices, although new customers may benefit from particularly competitive pricing. Airport competition is associated with very marked differences in net prices, with based airlines tending to benefit from very low airport charges, but charter and non-based scheduled airlines paying rather higher charges, above BAA airports other than Heathrow (see paragraph 7.121). This suggests that switching costs as such are not likely to be a barrier to competition but the key issue is the extent to which airlines have bargaining power—for example, from their ability to bring new passengers, and subsequently take them away—and can sign long-term contracts to protect their airport- and route-specific sunk costs.

**Passenger airline responses on airport charges, other payments to BAA,  
other airport costs and value of capital at the airport**



**Airline responses on variability of costs and contract length  
for BAA London airports**

