

STANSTED QUINQUENNIAL REVIEW**Assessment of competition at Stansted Airport****Introduction**

1. In its reference to us, the CAA observed:

The overarching challenge for this review is to develop recommendations that lead to appropriate outcomes in terms of price, service quality, investment and efficiency at Stansted Airport, and other airports operating in the same market. Given the potential for major investment in new runway capacity (and associated infrastructure) at Stansted that means ensuring that the regulatory framework delivers incentives which give the best chance of the right investment, at the right time and at the right cost.

2. Against that background, the CAA has raised the issue of whether a RAB-based price cap could distort incentives for other airport operators to invest in new capacity by holding prices below the competitive price level. Some of the price control options referred to us in the reference document (in particular, the market-led and precautionary price-cap approaches) were also motivated by and rely on an assumed level of competition between Stansted and other airports. Given this background and the de-designation decision that Stansted is likely to develop market power, we have had to look into the issue of possible distortions to airline or airport competition that could arise from the setting of a maximum price cap. We have also had to investigate whether competitive constraints are sufficiently strong to allow for the setting of a looser price cap. There are a number of stages to this analysis. First, we have to assess whether a given price cap is likely to be binding. If we find that it is, we must then consider whether it is likely to bind at a level below the price that would be

expected to arise in a well-functioning market. If this were the case, we would also then have to consider which airports could be affected and whether there could be any potential distortions to airline competition.

3. This paper begins by drawing together the substantial body of evidence on demand-side substitutes for Stansted that has been considered by the CC in the context of the ongoing market inquiry, by the DfT and the CAA in their decision to continue to designate Stansted and by parties responding to the CAA's review of price control options at Stansted. Our review of this evidence concludes that the only non-BAA airport that could be considered an effective substitute for Stansted by airlines and their passengers is Luton. This tells us two things. First, that, as competitive constraints on Stansted are weak, any price cap is likely to be binding. Secondly, the only non-BAA airport that might be affected by any distortions to Stansted's pricing is Luton.
4. We analyse average actual prices at Stansted and Luton to examine how they have constrained each other's pricing in the past and consider how capacity constraints might affect their ability to compete during the course of Q5. We look at the strength of competitive constraints on Stansted in practice by reviewing the profitability of recent price increases and by considering Stansted's ability to increase prices further still. Because we find evidence of potential interactions between Stansted and Luton, we have to consider how current prices relate to the price that might be expected to result from a well-functioning market. This is to investigate whether a RAB-based price cap might deter capacity expansion at Luton, or distort competition between airlines.
5. This is a preliminary working paper, intended to share our provisional thinking with interested parties and to invite comment on our methodology and conclusions. Our

views are subject to change following our review of the responses we receive to this paper.

Executive summary

Overview

6. Our analysis of demand-side substitutes shows little in the way of competitive constraint on Stansted. The only non-BAA airport capable of supporting a similar range of destinations is Luton, and Luton is currently close to capacity and therefore limited in its ability to compete. Whilst some passengers have shown a willingness to travel to airports outside the London area, passengers are limited in their ability to switch by the smaller number of destinations served by regional airports. Airlines are also constrained in their ability to switch to these regional airports by the lack of traffic density on individual routes at any one of these airports.

7. We find that the current price at Stansted is unlikely to be below the price that would be expected to result in a well-functioning market largely because there is no evidence of excess demand and the price level is significantly higher than our estimates of marginal cost. We find little evidence of switching in response to past increases. Moreover we find evidence to suggest that prices are currently below the maximum allowed under the cap because of strategic considerations rather than competitive constraint. A consideration of airline profitability suggests that prices could be profitably increased to approximately double their current levels by an unregulated operator of Stansted.¹ We conclude that Stansted can profitably increase prices above the price that would be expected to result from effective competition, and therefore that it has significant market power.

¹This assumes that ancillary revenues are sufficient to cover cost of capital as well as the cost of any ancillary services. If this is not correct, then average willingness to pay will be somewhat lower.

8. Finally, we do not think that a RAB-based price cap would distort incentives for other airports to invest during Q5. This is partly because our assessment of traffic forecasts means we think it unlikely that Stansted will reach capacity in every hour of the day during Q5, and therefore unlikely that the weighted average competitive price will increase much above current levels. As the allowable yield applies only to average yield per passenger, there is considerable scope for a regulated operator to increase charges in peak hours by charging below the cap for off-peak usage. We also note that the main competitor to Stansted—Luton—is already [✂], the charges set at Stansted will have no impact on Luton’s investment decisions.

Demand-side substitutes

9. In order to assess the competitive constraints on Stansted from non-BAA airports, this paper has considered a range of evidence. Each of these pieces of evidence has some associated problems but the evidence tends to point to the same outcome—that there is very little, if any, competitive constraint on Stansted from non-BAA airports outside London. There is more of a constraint on Stansted from Luton and for business passengers from City (and Luton), but these constraints do not seem large enough to prevent Stansted from profitably raising its prices above current levels.
10. Our catchment area analysis, which looks at where Stansted passengers live, provides a rough indication of which customers are likely to be marginal. It is reasonable to assume that if everyone in a given area uses one airport exclusively, it is probable that these passengers will be less likely to switch in response to a price change than a region in which a large portion of the passengers already make use of a ‘rival’ airport. Nevertheless, this is an assumption: the analysis of catchment areas does not actually tell us anything about the price sensitivity of passengers and therefore whether they will actually switch to using a rival airport. Neither can we rule

out the possibility that overlapping catchment areas result from different airports being used by the same passengers for different purposes (eg one always for leisure and one always for business) rather than as substitutes for one another.

11. The analysis shows that some 80 per cent of Stansted's passengers came from districts in the catchment area of another BAA airport and 12 per cent came from the catchment area of non-BAA airports. This was made up of 6 per cent from the catchment of Luton and 9 per cent from BHX (~3 per cent), EMA (~2 per cent), LBA (~1 per cent) and MAN (~2 per cent) districts. The non-BAA airport overlap for leisure passengers was broadly the same as for all passengers—14 per cent. The overlap figure with non-BAA airports for business passengers was 28 per cent.
12. Although there are some limitations to this analysis, the results seem to indicate that, with the exception of business passengers, there is little overlap between Stansted and non-BAA airports. Whilst nearly 10 per cent of Stansted's passengers in total come from regional airport catchments, no one regional airport has a significant amount of overlap.
13. Our analysis of airline switching suggests very little, if any, constraint being imposed on Stansted from outside London. Only Luton seems to impose a constraint on Stansted and, on the basis of the switching evidence, this does not seem to be large. However, this view needs to be qualified as it does not take into account the threat of switching.
14. BAA data on switching (which may underestimate switching) identified three instances of switching during the period March 1996 to March 2006 away from Stansted but only one was to a non-BAA airport—Luton. However, there were four instances of switching of routes from Gatwick to Luton which may suggest that, to

some extent, Luton imposes a constraint on BAA's London airports, including Stansted. The CAA has also indicated that the six new routes recently introduced at Luton by Ryanair were matched by a reduction in services and/or frequencies at Stansted.

15. The CAA's survey of short-haul scheduled leisure passengers at Stansted showed little, if any, evidence of a competitive constraint being imposed on Stansted from non-BAA airports outside London. The only non-BAA airport that seems to impose a constraint on Stansted is Luton. The BAA survey showed the same outcome.
16. We asked airlines to tell us their three closest airline competitors on each of their routes from each BAA airport, and the airports each of these competitors flew to and from. This analysis shows that non-BAA airports outside London do not appear to impose a competitive constraint on Stansted. Luton may impose some constraint.
17. We asked airlines which other airports (BAA and non-BAA) were a substitute for each of the BAA airports from which they operated (assuming slots could be obtained at the substitute airport), and also how airlines would respond to price increases at BAA airports. We received mixed evidence: some cargo operators said that they might be able to use non-BAA airports but others said they would not. We did not receive any views that suggested that non-BAA airports were substitutes for Stansted for passenger traffic.
18. Finally, we noted that the Secretary of State for Transport concluded that Stansted Airport should continue to be designated, partly because it did not face sufficient competitive constraints. Specifically the DfT found that whilst the fact that Stansted is currently pricing below the maximum level permitted makes it seem probable that it

does not hold a position of substantial market power at present, it is more likely than not that it will acquire a position of substantial market power in the future.

Analysis of Luton airport as a competitive constraint

19. The question of whether Luton imposes an effective constraint on Stansted's pricing is ultimately an empirical one. Our analysis of average actual prices at Stansted and Luton does not provide much evidence this is the case. Although we see a trend decline in Luton's prices throughout the 1990s that is likely to have been due to the entry and aggressive pricing strategy of Stansted, it is not clear that prices at the two airports move together. However, anecdotal evidence from Luton Airport suggests that the level of charges at Stansted is taken into account when setting prices at Luton, including the fact that Luton invested significant effort in allegations of predatory pricing in the 1990s. Furthermore, more rapid passenger growth at Stansted corresponded to a period in which Stansted's prices were lower than Luton's.

20. We find that the key factor limiting Luton's ability to constrain prices at Stansted at present is its lack of spare capacity. We conclude that apron constraints in particular and terminal constraints to a lesser extent are likely to limit the extent to which Luton can compete with Stansted for new and existing business at least over the Q5 period.

Analysis of the profitability of price increases at Stansted

21. If Luton were an effective constraint on Stansted, we might expect to have seen enough switching to Luton to make the recent price increase at Stansted unprofitable. Instead we see a small reduction in capacity by airlines and some limited switching of passenger volume to Luton and Gatwick, and find overall that the increase was very profitable.

22. We also look at whether Stansted could increase prices further in the absence of regulation. The CAA's critical loss calculation suggests that prices could be as much as £5 higher, although there are some problems with this analysis, including the fact that it does not allow for airline switching, it relies on responses to a hypothetical question and is likely to understate the costs an airport would consider when negotiating prices. The CAA placed no weight on this finding because it concluded that, when taken together with the competitive constraint imposed by Luton, the cumulative importance of non-London airports for Stansted's passengers would allow for sufficient switching by both passengers and airlines to make a significant price increase unprofitable. We do not agree with this conclusion because we find that route availability would constrain passenger switching and a lack of route density at any one regional airport would constrain airline switching.
23. Our comparison of traffic and fares for Ryanair's Gatwick–Dublin and Stansted–Dublin routes also indicates that it would be profitable for BAA to increase charges at Stansted. If we assume that demand for Ryanair services to Dublin is the same from both airports, the difference in airfares and passenger numbers at the two airports implies that an increase in charges at Stansted of £5 would be profitable. If instead we assume that demand for Ryanair services to Dublin are 65 per cent greater at Gatwick than at Stansted and that the demand curve is linear,² then it would not be profitable for Stansted to increase charges by a full £5, but an increase of at least £1 would be profitable.³ We note that this analysis is based on just one route, which may not be representative, and also requires a number of assumptions about relative demand, so should be treated with some caution.

²That is, we assume that the relationship between price and quantity is the same for all prices.

³This is consistent with evidence from the CAA survey of consumers' preferences on all routes.

24. Analysis by Frontier using easyJet transaction data found that Stansted could profitably increase prices above current levels. We performed a similar analysis using the easyJet data ourselves. We found there were problems in using the easyJet data that applies to this type of analysis but note that the results are consistent with our overall findings on competition at Stansted.
25. One factor that could limit Stansted's pricing power is countervailing buyer power on the part of airlines. Previous price negotiations suggest that this may have been the case in the past when Stansted and other airports in the South-East were relatively unconstrained. However, capacity constraints at rival airports have reduced the value of airlines' outside options, whilst at the same time increasing the value of Stansted's by making it easier to replace any of the airlines. This is confirmed by ongoing negotiations between BAA and airlines for 2008/09, in which BAA is offering discounts for long-haul traffic, new short-haul routes and off-peak traffic only. If incumbent airlines accept these proposals, as seems likely, it could be taken as an indication that Stansted has strong bargaining power. However, this must be qualified by the fact that some of the offers are very generous. Furthermore, the fact that BAA is actually negotiating with airlines is of some significance because an effective monopolist might be expected to offer tariff rebates for off-peak usage in the knowledge that these could be offset by higher peak prices.⁴ On balance, we conclude that Stansted has a relatively strong bargaining position, and would likely be able to increase charges above current levels.
26. The CAA has considered the fact that Stansted is currently pricing below the maximum allowed level as one of a number of pieces of evidence suggesting that Stansted is subject to competitive constraints. We are not of the view that Stansted

⁴On the other hand, discounts for new routes could be explained by the fact that a new route is usually loss-making for an airline for two to three years.

pricing below the cap is indicative of competitive constraints. Instead we have found evidence in an internal paper submitted to the board and in a subsequent presentation at the 2008 Budget Review Session that Stansted is not pricing up to the cap for strategic reasons. Combined with evidence that competitive constraints are weak, we conclude that Stansted could profitably increase charges above current levels.

27. Whether this is indicative of market power depends on whether the current price is at least as high as the price that would be expected to result in a well-functioning market. In practice, it is difficult to define an appropriate level for this price and so we use estimates of marginal cost as a guideline, recognizing that the well-functioning market price could be somewhat higher. We find that prices in a well-functioning market will adjust to clear the market and could therefore increase towards the marginal customer's willingness to pay when capacity is fully utilized.
28. From this it follows that excess demand would not be seen in a well-functioning market since, if the demand from users at the prevailing prices could not be met by the capacity supplied by airports at those prices, rivalry among users would cause prices to rise until supply and demand came into equilibrium at the competitive price. Because it is pricing below the competitive level that would result in excess demand, we look at demand and supply for runway slots at Stansted. The latest start-of-season ACL reports show spare capacity across the day even in the summer season and so we conclude that prices must be at least as high as the competitive level.
29. We use a number of methods to estimate marginal cost, which we find could range from £0.98 to £5 but is most likely to be between £3 and £5. Commercial revenues should be offset against costs and are forecast to be £[~~] per passenger in~~

2010/11.⁵ We are of the opinion that whilst the price that might be expected to result from a well-functioning market could be somewhat higher than our estimates of marginal cost,⁶ it is unlikely to be as high as the current level of £6.34 and certainly not as high as £[~~8~~], which we believe is the maximum level an unregulated operator of Stansted could profitably charge.⁷ We are therefore of the view that Stansted could profitably increase charges above the competitive price and therefore that it has market power. We are also of the view that a RAB-based price cap at or above current levels is unlikely to hold prices below the competitive level during the course of Q5, and therefore unlikely to distort signals for Luton to invest in capacity expansion where and when it becomes appropriate. We also note that Luton's capacity development plans are currently constrained by [~~8~~], and are not at present affected by charges at Stansted.

Evidence on demand-side substitutes

Type of passengers using Stansted

30. Table 1 shows the proportion of passengers that actually travelled through Stansted split by business/leisure travel. The same split is shown for non-BAA airports which may impose a competitive constraint in Stansted, and for other BAA London airports. The split of types of passengers at Stansted is broadly similar to that at the non-BAA airports of Luton, East Midlands and Birmingham but is not similar to the split at City.

⁵This was the first financial year we could change the passenger numbers input into the BAA financial model.

⁶In order to allow for recovery of fixed costs in the long run.

⁷Based on our assessment of airline profitability.

TABLE 1 **Business/leisure split by airport**

<i>APT</i>	<i>Business Pax</i>	<i>Leisure Pax</i>	<i>Business %</i>	<i>Leisure %</i>
LHR	17,200,000	26,100,000	40	60
LGW	4,475,208	24,300,000	16	84
STN	3,748,837	16,800,000	18	82
LCY	1,454,214	817,435	64	36
LTN	1,785,325	6,905,028	21	79
EMA	543,872	4,005,988	12	88
BHX	1,910,873	6,709,547	22	78
LBA ⁸	484,052	1,916,741	20	80
LPL	584,212	4,613,297	11	89
MAN	4,182,940	16,600,000	20	80

Source: CAA Passenger Survey 2006, CC analysis.

Catchment area overlap analysis

31. We have conducted an analysis of the airports' respective existing catchment areas which is discussed in more detail in our working papers for the market inquiry. We look at catchments because they provide a rough indication of which customers are likely to be marginal. It is not unreasonable to assume that if everyone in a given area uses one airport exclusively it is probable that these passengers will be less likely to switch in response to a price change than a region in which a large portion of the passengers already make use of a 'rival' airport. However, this is nevertheless an assumption: the analysis of catchment areas does not actually tell us anything about the price sensitivity of passengers and therefore whether they will actually switch to using a rival airport. Nor can we rule out the possibility that overlapping catchment areas result from different airports being used by the same passengers for different purposes (eg one always for leisure and one always for business) rather than as substitutes for one another, although we do carry out the analysis for business and leisure passengers as well as all passengers.
32. Table 2 shows the extent to which (measured as a percentage of total passenger base) Stansted draws passengers from districts within the catchments of Heathrow,

⁸A number of passengers at LBA did not specify whether they were business or leisure.

Gatwick, Luton and ‘Regional’ airports (which includes Birmingham, East Midlands, Manchester, Liverpool and Leeds Bradford). For purposes of this analysis, a district has been classified as within an airport’s catchment area if in excess of 20 per cent of passengers in that district make use of the airport.

TABLE 2 Distribution of Stansted’s passenger base by district type

Overlap type	per cent		
	All	Leisure	Business
LHR	65	59	79
LGW	49	63	11
LTN	6	6	9
Regional	9	9	10
Total BAA	82	81	80
Total non-BAA	12	14	28

Source: CAA Passenger Survey 2006, CC analysis.

33. The analysis shows that some 80 per cent of Stansted’s passengers came from districts in the catchment area of another BAA airport. 12 per cent came from catchment areas of non-BAA airports. This was made up of: 6 per cent from the catchment of Luton (which breaks down into 1 per cent came from Luton-only districts and a further 5 per cent from Luton-overlap districts); and 9 per cent from BHX (~3 per cent), EMA (~2 per cent), LBA (~1 per cent) and MAN (~2 per cent) districts. The non-BAA airport overlap for leisure passengers was broadly the same as for all passengers—14 per cent. The overlap figure with non-BAA airports for business passengers was 28 per cent.

34. Although there are some limitations to this analysis given above, the results seem to indicate that, with the exception of business passengers, there is little overlap between Stansted and non-BAA airports. Whilst nearly 10 per cent of Stansted’s passengers in total come from regional airport catchments, no one regional airport has a significant amount of overlap.

35. As noted earlier, there is no obvious level at which this threshold should be set to best capture whether or not passengers in a given district are contestable. However, even when we reduce the catchment threshold from 20 per cent to 10 per cent we find that no more than 23 per cent of Stansted's passengers come from Luton and 10 per cent of passengers come from the regional airports.

CAA isochrone analysis

36. The CAA's catchment analysis (not shown here) for London airports found that 90 per cent of short-haul leisure passengers travel less than 2 hours to their chosen airport. It used this finding to investigate the potential for material interactions between neighbouring airports to result in a chain of competing airports by plotting 2-hour drive-time 'isochrones' around a selection of airports, reproduced in Figure 1. It found clear overlaps between the Stansted and Luton isochrones and between those of Birmingham and East Midlands, and noted that passengers in a large area of the Midlands were within a 2-hour drive of three or four airports. It considered this evidence that in addition to the direct constraint resulting from overlapping catchment areas, there might also be a geographic chain of substitution extending as far as Manchester which could provide a further, if weaker, constraint on Stansted.
37. It is our view that regional airports do not provide an effective constraint on Stansted. They do not offer a comparable range of destinations and frequency of services to Stansted, which, in the short term, limits the ability of passengers coming from overlapping catchment areas to switch to regional airports in response to price changes. In the longer term, in principle airlines could switch their services to regional airports. However, since the number of passengers in the overlapping catchment areas is relatively small, it seems unlikely that an airline could expect to obtain significant passenger density at any one individual regional airport in order to switch a route. Furthermore there are a large number of passengers in the London

area who are more than a 2-hour drive-time from any regional airport. If Ryanair were to move from Stansted to East Midlands in response to a substantial price increase, it is very likely that another airline would enter Stansted to fill the gap ('back-fill') because these passengers without a choice would continue to want to travel. As a similar argument applies to Luton, it cannot be argued that regional airports constrain Luton's pricing.

FIGURE 1

2-hour drive-times around selected airports



Key: STN, LTN, BRS, BHX, EMA, MAN.

Source: CAA.

Switching

38. BAA provided us with an analysis of airline switching to/from its airports. BAA defined switching as instances when an airline moves all aircraft dedicated to a service from one airport to another, such that the airline no longer serves a destination from the original airport and begins to serve the same destination from an alternative airport within 12 months. This may understate switching because it excludes instances where an airline switches some but not all flights on a route and starts flights at a substitute airport rather than increasing frequency at the original airport.

39. There has been limited switching from Stansted to non-BAA airports. In total, BAA identified three instances of switching (as defined above) during the period March 1996 to March 2006 away from Stansted but only one was to a non-BAA airport: Ryanair switched some routes from Stansted to Luton, which BAA suggested was part of its strategy to increase its Luton presence.⁹ However, there were four instances of switching of routes from Gatwick to Luton,¹⁰ which may suggest that to some extent Luton imposes a constraint on BAA's London airports, including Stansted. The CAA also informed us that the six new routes introduced recently at Luton by Ryanair were matched by a reduction in services and/or frequency at Stansted, which it interpreted as evidence of switching.
40. Overall the switching data suggests very little, if any, constraint being imposed on Stansted from outside London. Only Luton seems to impose a constraint on Stansted and, on the basis of the switching evidence, this does not seem to be large. However, this view needs to be qualified as it does not take into account the threat of switching.

CAA survey

41. During 2006, the CAA added some questions to its regular passenger survey at the four main London airports.¹¹ Short-haul scheduled leisure passengers resident in the UK were asked about (a) their previous usage of airports (for non-business use in the past two years) and (b) other airports considered for the trip. The results are shown in Figure 2.

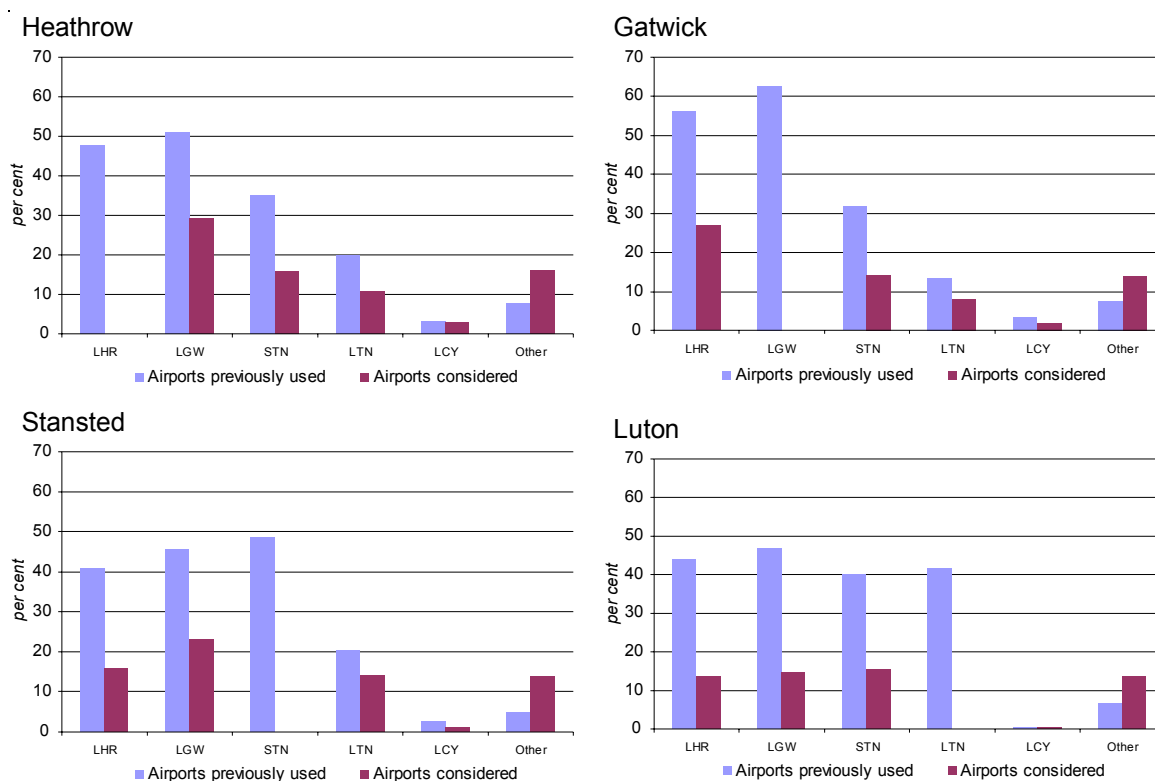
⁹The other two were by easyJet which switched routes from Stansted to Gatwick—BAA suggested that this was to achieve a higher average fare (competition from BA at Gatwick being weaker than competition from Ryanair at Stansted).

¹⁰Three were by Volare which BAA suggested might have been the result of a favourable deal on airport charges, and one (Gatwick–Zurich) was by Helvetic which BAA suggested was to operate at times when it did not have Gatwick slots and possibly avoid competition with BA which had recently started operating the route.

¹¹The sample size at Stansted was 645. The additional questions were asked during 15 May to 31 July 2006.

FIGURE 2

Excerpt from CAA analysis on Stansted constraint



Source: CAA survey data 2006.

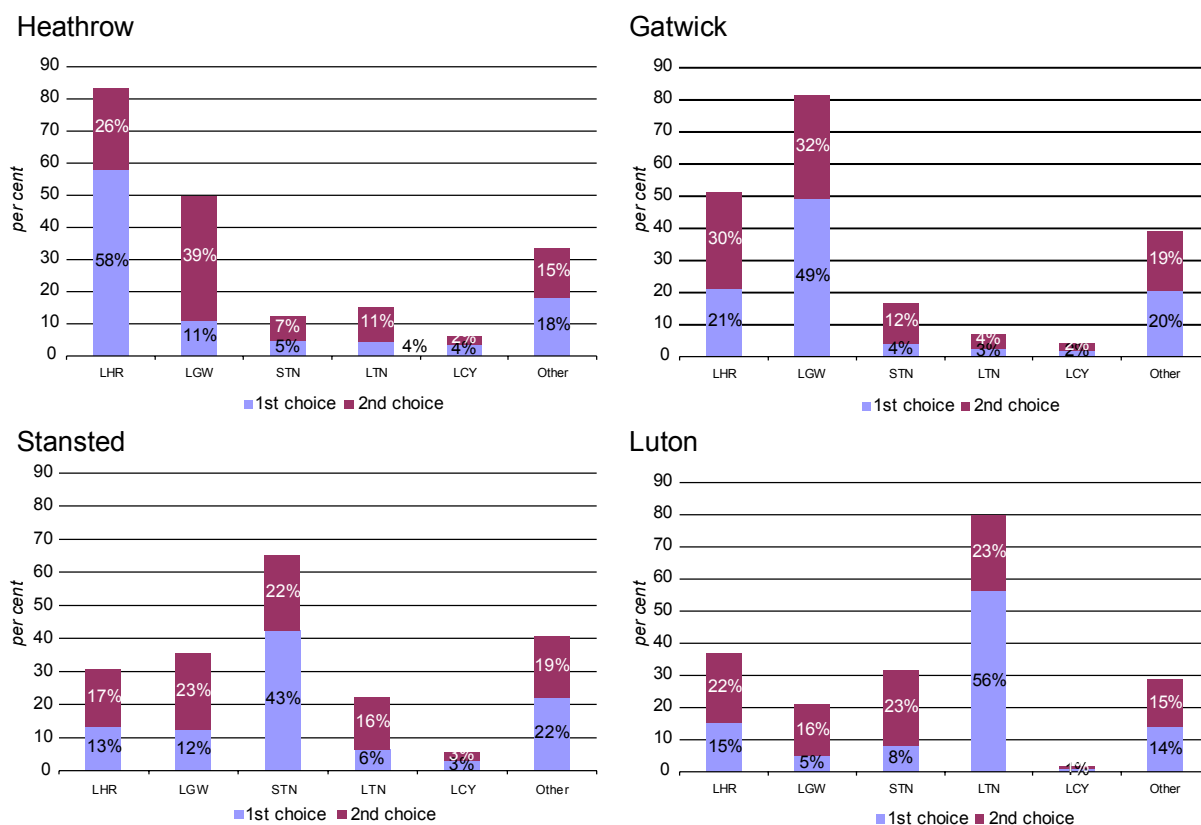
*Initial price control proposals for Heathrow, Gatwick and Stansted Airports: Supporting paper II: Competitive constraints faced by Stansted Airport, CAA, December 2006.

42. 20 per cent of Stansted passengers had used Luton in the past two years and between 10 and 20 per cent had considered using Luton. Fewer Stansted passengers used other airports (compared with Luton) but about the same proportion considered these airports. These proportions are much smaller than those for Stansted passengers with regard to BAA's other two London airports. Very few Stansted passengers used or considered using City.

43. All these passengers (ie not just those using or considering another airport) were also asked which would have been their first and second choice airports if their flights were available from all airports for the same price. Results are summarized in Figure 3.

FIGURE 3

Excerpt from CAA analysis on Stansted constraints



Source: CAA survey data 2006.

*Initial price control proposals for Heathrow, Gatwick and Stansted Airports: Supporting paper II: Competitive constraints faced by Stansted Airport, CAA, December 2006.

44. For Stansted passengers, 43 per cent viewed Stansted as their first-choice airport and 22 per cent as their second-choice airport. 6 per cent of Stansted passengers viewed Luton as their first-choice airport and 16 per cent viewed it as their second-choice airport, the latter being very similar to Heathrow (17 per cent). Very few Stansted passengers viewed City as their first- or second-choice airport.

45. The CAA attributed significance to the proportion of respondents giving non-London airports as a first or second choice—22 per cent and 19 per cent respectively for Stansted. In each case this was divided between a number of airports, none of which individually represented more than about 4 per cent of respondents. For Stansted, East Midlands and Norwich (3.3 per cent) accounted for the most first choices

followed by Birmingham, Bristol and Southampton (each about 2 per cent). The CAA considered the cumulative impact of these airports to be a significant competitive constraint on Stansted. We observe that these responses related to a hypothetical situation in which flights were available from all airports for the same price. The reason that 22 per cent of Stansted passengers used that airport even though a non-London airport would have been their first choice presumably shows that for them the hypothetical situation did not exist in the real world. In particular, route and frequency availability is very limited at the non-London airports by comparison with Stansted. For this reason, we do not agree with the CAA that there is a significant competitive constraint on Stansted from non-London airports. The potential for passenger switching, the impact of which could be considered on a cumulative basis, is currently limited by route and frequency availability at regional airports. In turn, airline switching to offer additional routes and frequencies at any one regional airport is limited by the potential density of that particular airport, ie the number of passengers who would potentially switch to that airport and not to all regional airports.

46. The CAA survey also asked passengers what they would have done if flights from their airport, but not from other airports, increased by £5 (£10 return). 17 per cent of Stansted passengers indicated that they would have stopped using the airport; the comparable figures for Gatwick, Heathrow and Luton were somewhat lower at 9, 10 and 10 per cent respectively.¹² Care needs to be taken in interpreting responses to hypothetical questions as responses may not reveal accurately what respondents would do if prices were actually increased. Moreover, some airlines at some airports may have bargaining power, implying a greater ability to resist price increases than implied just from passengers' price sensitivity. We return to this issue later when considering Stansted's ability to increase charges above current levels.

¹²Figures include respondents saying that they would have used other airports and those saying that they would not have travelled (accounting for 2 per cent and 1 per cent of Stansted and Luton percentages respectively).

47. The survey evidence from the CAA is consistent with other evidence of little, if any, competitive constraint being imposed on Stansted from non-BAA airports outside London. The only non-BAA airport that seems to impose a constraint on Stansted is Luton.¹³

BAA survey

48. In the summer of 2006, BAA conducted a survey at Heathrow, Gatwick and Stansted which probed the issue of airport choice. In total, some 3,446 non-transfer passengers (1,776 at Heathrow, 776 at Gatwick and 894 at Stansted) were asked the main reason for choosing the airport they used. The results are presented in Table 3. The main reason for choosing each of the airports was that it was the ‘easiest, nearest’, although Stansted passengers seem to attach more weight to price and less to the timing of the flights than passengers at the other BAA London airports.

TABLE 3 **BAA survey 2006—main reasons for choice of airport**

	<i>per cent</i>		
	<i>Heathrow</i>	<i>Gatwick</i>	<i>Stansted</i>
Easiest/nearest to get to	49.2	38.7	45.8
Cheapest flight available	9.5	18.8	24.6
Most convenient flight (time/day)	23.5	15.4	7.8
No flights available from other airports	7.8	19.9	18.0
Easiest to use	7.3	10.4	9.2
Wanted to fly with particular airline	12.0	3.6	8.9
Don't know which others to use	3.2	9.0	1.2
More familiar with airport	2.2	2.0	4.2
Shorter connection time	1.9	0.5	2.9
General image	0.3	0.0	2.7
English spoken	0.3	0.5	0.0
Airport shopping	0.2	0.5	0.0
More confident about baggage transfer	0.0	0.0	0.1
Other reasons	4.7	7.0	5.9

Source: BAA.

Note: Respondents may have given more than one reason. Hence totals sum to more than 100 per cent.

49. The survey also asked passengers to indicate whether they had checked to see if they could have flown from another UK airport. Some 40 per cent of Stansted outward respondents indicated that they had done so, a higher proportion than for

¹³It is unlikely that City would be cited in the survey as it covered leisure passengers.

Heathrow (25 per cent) and Gatwick (37 per cent), which may indicate that Stansted passengers are more likely to switch airports than passengers of Gatwick and particularly Heathrow. These passengers (ie those who checked other alternatives) were then asked (a) which other airports they found they could have flown from and (b) which airport they would have flown from if they had not been able to fly from their chosen airport. The results are summarized in Table 4. Very few respondents viewed non-BAA London airports as a second choice: the exception was Luton, which was seen as a second choice by 13 per cent of respondents asked this question (just over 5 per cent of all Stansted respondents—40% x 13%).

TABLE 4 **BAA survey 2006: other airports that respondents found they could have flown from and second-choice airport for passengers surveyed at Stansted (% of respondents who had checked alternatives)**

	<i>Flight available*</i>	<i>Second choice</i>
Heathrow	31	17
Gatwick	41	26
Stansted		
Luton	22	13
London City	2	1
Birmingham	6	3
Bristol	2	1
Manchester	5	1
Southampton	3	1
East Midlands	1	0
Other	8	5
None†	27	

Source: BAA.

*Respondents may have found that they could fly from more than one airport. Hence totals sum to more than 100 per cent.

†Respondents answering 'no other airport found' or 'wouldn't have made the trip'.

50. Finally, BAA also asked respondents which other airports they had used in the previous 12 months (see Table 5). Again, other than other BAA London airports, Luton is the only other airport used by more than 5 per cent of respondents (15 per cent).

TABLE 5 **BAA survey 2006: previous airport usage**

per cent

Other airports used in last 12 months

<i>LHR</i>	<i>LGW</i>	<i>LTN</i>	<i>LCY</i>	<i>SOU</i>	<i>BHX*</i>
36	29	15	4	1	4

Source: BAA.

*Birmingham.

51. The BAA survey evidence, like the CAA survey evidence, shows little, if any, competitive constraint being imposed on Stansted from non-BAA airports outside London. The only non-BAA airport that seems to impose a constraint on Stansted is Luton.¹⁴

Airline competitor analysis

52. We asked airlines to tell us their three closest airline competitors on each of their routes from each BAA airport, and the airports each of these competitors flew to and from. This analysis does not, however, provide a complete picture of constraints on airports because it only reflects any indirect constraints via airline fares and not any direct constraints via airlines switching between airports. It also assumes that fares are constrained mainly by actual competition from other airlines rather than the threat of entry.

53. As there are a large number of routes from each airport, we weighted each route by the number of passengers on that route. Results for Stansted for two airlines ([redacted])¹⁵ are summarized in Annex 1.

¹⁴It is more likely that City would be cited in the BAA survey than the CAA survey as the BAA survey included business passengers.

¹⁵[redacted]

54. At Stansted, competitors tended to be at other airports. Gatwick was most important as the location of the closest competitor but Heathrow was more important as the location of the second- and third-closest competitors. Luton was mentioned as the closest competitor for some routes. No non-BAA airports outside London were mentioned.
55. There are a number of limitations to this analysis: it is relevant only to indirect constraints via airline fares and not to any direct constraints via airlines switching between airports; and it is based on subjective assessments by airline staff, the parameters of which may differ between airlines and be affected by policy considerations.¹⁶ However, taking account of the limitations, the analysis shows that non-BAA airports outside London do not appear to impose a competitive constraint on Stansted. Luton may impose some constraint.

Airline views

56. We asked airlines which other airports (BAA and non-BAA) were a substitute for each of the BAA airports from which they operated (assuming that slots could be obtained at the substitute airport), and also how airlines would respond to price increases at BAA airports. We received mixed evidence: some cargo operators said that they might be able to use non-BAA airports but others said they would not. We did not receive any views that suggested that non-BAA airports were substitutes for Stansted for passenger traffic.
57. 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. Ryanair said that a move from Stansted to Luton would see the yield fall by about

¹⁶Also our weighting of first, second and third competitors is arbitrary—although it is unlikely that different weightings would yield greatly different results.

£[redacted] per passenger, and costs would be approximately £[redacted] per passenger cheaper with the capital cost of moving facilities being roughly £[redacted] million. Ryanair said that if there was a further 10 per cent increase in airport charges at Stansted, over and above the recent doubling of charges, [redacted]. A further 50 per cent increase in charges at Stansted would see Ryanair cancel a number of marginally profitable routes and reduce the number of based aircraft from 40 back to approximately [redacted] in the summer and [redacted] in the winter, with an accompanying reduction in frequency across many routes in order to fit the reduced flying programme into just [redacted] based aircraft. Given that there are no available slots at other London airports, these services would therefore be lost to the London market.

58. [redacted] East Midlands and Kent International Airport at Manston were potential substitutes. [redacted] Other airports (eg Luton, Southampton or Bristol) were not substitutes because the runways are too short or there are other physical infrastructure constraints. BA said that the increase in charges at Stansted had prompted it to consider whether it was possible to relocate its cargo operation. It stated that any further increase would be likely to strengthen the case for relocation (assuming that a reduced total cost of operation could be achieved).
59. FedEx said that it would need to carry out a full study in order to say if it could switch from Stansted. However, it said that 60 per cent of its business was in the South-East and that Gatwick (subject to any regulatory issues) was one of a number of airports that might provide it with good alternatives to Stansted, with East Midlands, Manchester and Robin Hood Doncaster providing options for the remaining 40 per cent. It said that switching flights to these airports would be very difficult due to the nature of its business. It needed to have an express sort hub, and therefore could not currently move to any alternative. If it was to divert aircraft away from Stansted, it

would still need to use the sort hub at Stansted. Freight operators, such as Fedex [redacted], appear to have significant sunk investments in their hubs at Stansted.¹⁷

60. UPS said that there was no alternative to Stansted because Gatwick and Heathrow were capacity constrained and the runway at Luton was not long enough for a fully-laden B-767 to take off and travel direct to the USA.

61. TNT said that [redacted].

62. [redacted]

63. The CAA presented additional evidence showing that easyJet offered its prospective passengers a range of alternatives that extended beyond London airports, reproduced in Table 6. This does not tell us how many passengers are likely to be marginal.

TABLE 6 Evidence from CAA: easyJet suggested alternative airports

<i>Requested origin airport</i>	<i>Suggested alternatives (in order given by easyJet)</i>
Stansted	Luton, Gatwick, East Midlands
Luton	East Midlands, Stansted, Gatwick
Gatwick	Luton, Stansted
East Midlands	Luton, Stansted, Liverpool

Source: CAA based on information from easyJet website.

Wider competitive constraints

64. The CAA submitted to us that the larger airlines at Stansted operated on a pan-European basis and could therefore switch routes out of Stansted to any of a number of large, unconstrained airports across Europe in response to a charge increase at

¹⁷Fedex indicated that it had invested about US\$[redacted] in its hub in 2000 and had a further £[redacted] in ground equipment. [redacted]

Stansted. We are not convinced that this is currently a significant constraint on Stansted's prices. An increase in charges at Stansted does affect the relative profitability of routes, but it is difficult to see, if a particular route was profitable prior to the Stansted charge increase, why it was not already being served. Given relatively strong competition between low-cost carriers, we would expect to see entry occurring at unconstrained airports until rents are competed away. As no passengers would switch from the Stansted route to the European route, there would be no increase in demand on the European route following a price increase at Stansted. It is difficult to see then why airlines would switch to this route, unless they had previously been constrained in the number of planes they could deploy.

65. Analysing the strength of this potential constraint is difficult because airlines have not told us that they would switch in this way and we cannot look at passenger behaviour in this context. However, we do look at the profitability of recent price increases and of further price increases in paragraphs 77 to 89 and 90 to 118 respectively, which include the effects of competition from other airports generally. We do not find evidence of any significant constraint.

DfT's designation decision

66. Against the advice of the CAA, the DfT, after careful consideration, concluded that Stansted met all the criteria for designation,¹⁸ and should continue to be designated.¹⁹ The DfT's decision was based on the following.

¹⁸Designation of an airport is appropriate if, in the view of the Secretary of State:

1. the airport, either alone or together with any other airport(s) in common ownership or control, has or is likely to acquire, substantial market power; and
2. domestic and EC competition law may not be sufficient to address the risk that, absent regulation, the airport would increase and sustain prices profitably above the competitive level or restrict output or quality below the competitive level; and
3. designation under Section 40 of the Airports Act 1986 would, taking account of the magnitude of the risk identified in (2) and its detrimental effects were it to materialise, deliver additional benefits (i.e. over and above competition law) which exceed the costs and potential adverse effects of such designation (i.e. the incremental benefits are positive).

De-designation is appropriate if, in the view of the Secretary of State, any of these factors would cease to apply were the airport to be de-designated.

67. The DfT noted that the evidence about the strength of competitive constraints provided by other airports was mixed. It noted that it was not necessary to reach a definitive view on the geographic market to determine whether the first criterion was met. However, it noted that the additional evidence from the consultation following the CAA's advice, provided by the airlines and DfT modelling, suggested that the competitive constraint provided by airports outside London and the South-East might not be as strong as the CAA argued—in effect downplaying the constraints on Stansted from East Midlands and Birmingham.
68. The DfT concluded that, although the competitive balance of the airport was changing, on balance, it was probably the case that Stansted airport alone did not currently have substantial market power. This conclusion was reached particularly by noting that Stansted Airport is currently pricing below the maximum allowed price under its cap, there is some available capacity at Stansted and Luton airports, and switching costs for the main airlines using and likely to use Stansted Airport are low where they already have a base.
69. On balance, it felt that the evidence suggested that it was more likely than not that Stansted Airport alone would acquire substantial market power in the future, although noted this conclusion was finely balanced. This would be sufficient to conclude that the first criterion had been met.

Comparison of prices at Stansted and Luton

70. The question of whether Luton imposes an effective constraint on Stansted is ultimately an empirical one. We begin addressing this question by looking at the evolution of prices at each airport. If the two are considered close substitutes by

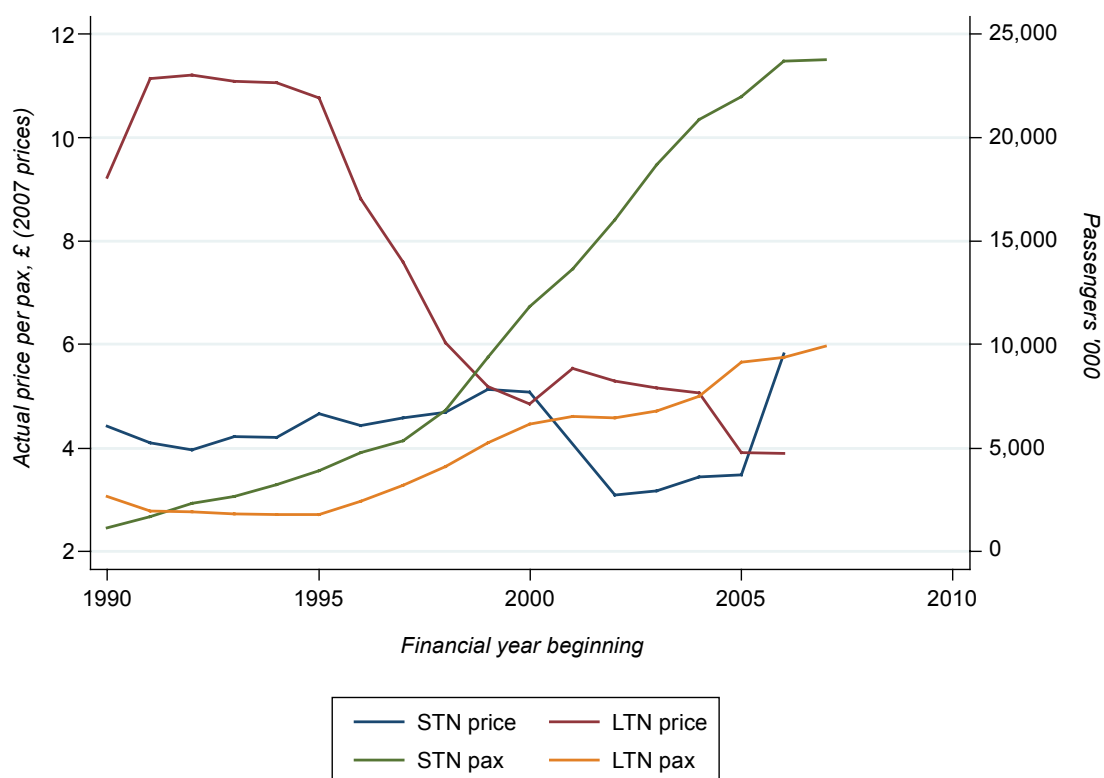
¹⁹The full DfT document was circulated in STN 73.

airlines and their passengers, we might expect to see their prices move together over time.

71. Figure 4 shows the average actual price per passenger, in 2007 prices, at Stansted and Luton from 1990 to 2007. Average actual price is calculated by dividing aeronautical revenue for a financial year by the number of passengers in that year and an appropriate deflator. It also shows passenger volumes at each airport over the period.

FIGURE 4

Comparison of average actual prices and passenger volumes at Stansted and Luton



Source: CC calculations using data from Luton Borough Council, CAA, Companies House and ONS.

72. There is some evidence that Luton’s prices fell over the course of the 1990s in response to the entry and aggressive pricing strategy of Stansted, although overall there does not appear to be a strong correlation between the two series. However, we note that anecdotal evidence from Luton Airport suggests that the level of

charges at Stansted is taken into account when Luton sets its price, as does the fact that Luton has invested significant resource into allegations of predatory pricing against Stansted in the past. We note that the CAA found that Stansted's pricing behaviour had affected Luton and that the European Commission imposed interim undertakings against Stansted to prevent any further adverse competitive effects. It is also clear that whilst both airports experienced strong passenger growth over the period, the period of particularly rapid growth at Stansted relative to Luton occurred between 2000 and 2004 when Stansted's price was lower.

73. Whilst this could be interpreted as evidence that Stansted affects Luton's prices, it does not tell us anything about whether the reverse is true. Luton Airport told us that the degree of route overlap between itself and Stansted represented a higher proportion of its total route network than it did for Stansted, suggesting that the constraint could run asymmetrically from Stansted to Luton. The above analysis is also based on a period of time when both airports were relatively unconstrained with respect to capacity.

Capacity at Luton

74. One factor that could limit the ability of Luton to impose an effective constraint on Stansted in the future is a lack of spare capacity.
75. Luton Airport is particularly constrained with respect to stand capacity. As a consequence, it is not possible for airlines to park additional aircraft at Luton overnight, which means that Luton cannot compete with Stansted for 'based' aircraft. This will limit the extent to which Luton can compete with Stansted for existing or new business, as the majority of carriers at both airports operate a business model relying on access to an early-morning departure slot to make their entire networks profitable. We understand from the hearing with Luton Airport that whilst one additional stand

may become available in the short term²⁰, this would not significantly increase its ability to compete for peak traffic. Any further additions to stand capacity would have to be accompanied by significant investment in terminal and taxiway infrastructure and [✂].

76. Although Luton Airport is currently investigating ways of increasing its capacity, there is uncertainty surrounding these plans. As a result, it is our working assumption that no significant developments are likely to occur in the short term and, therefore, existing capacity constraints are likely to continue²¹. The factor most immediately constraining Luton's ability to undertake large-scale investment projects is not the level of charges at Stansted but [✂]. We have also been told that the principal reason why the master plan to extend Luton to 30mppa did not progress further was [✂].

Profitability of past price increases

77. The lack of spare capacity at Luton suggests that the constraint imposed by Luton on Stansted going forward will be relatively weak. To test the strength of recent constraints on Stansted, we looked at the effects of the April 2007 price increases on passenger volumes. If Luton were an effective constraint on Stansted, we would expect to see switching in response to a significant price increase on a level so as to make the increase in price unprofitable. In fact, this does not appear to have been the case, which suggests that at least in the recent past, Stansted has held a position of market power.

²⁰ This paragraph has been amended from the original version to reflect concerns by Luton Airport that we were not accurately representing its views.

²¹ This paragraph has been amended from the original version to reflect concerns by Luton Airport that we were not accurately representing its views.

78. In April 2007, BAA increased its published prices to the level that enabled it to recover its allowable yield under the CAA's price cap, excluding correction for previous under-recovery. The average increase in published charges was 8.7 per cent. More importantly, many but not all airlines benefited from substantial discounts up to the end of 2006/07. The ending of these discounts has meant that different airlines have experienced very different net changes in prices, with [✂].

79. In April 2008, Stansted increased its airport charges again. BAA has said that it set charges to recover a yield for passenger flights in 2008/09 of £5.881 per passenger (reflecting its price cap excluding correction factor) plus air navigation (ANS) charges which, due to legislative changes, are now included in BAA's charges (previously ANS was charged directly by NATS to the airlines). Including ANS charges, BAA forecast that its charges would yield £6.338 compared with its price cap including correction factor of £6.648. For 2007/08 , BAA had set charges to recover £5.50, suggesting an overall increase (including ANS) of 15 per cent, explained as follows:

RPI	£0.23 per pax	4.1%
Security	£0.15 per pax	2.7%
ANS	£0.46 per pax	8.2%

80. BAA's actual tariffs are shown in Table 7. Landing and parking charges have increased less than passenger charges and the increase (excluding ANS) for a typical aircraft (B737-800) is just under 6 per cent. This is slightly less than suggested by the total of the RPI and security increases: one possible explanation of this is that the 2007/08 out-turn was slightly more than £5.50.

TABLE 7 Stansted airport charges

On each rotation, airline or its agent pays total of landing, parking and departing passenger charges

	2007/08 charges		2008/09 charges		% change 07/08		% change 08/09	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
<i>Landing charges: per landing</i>								
16–55 tonnes*	146.70	108.90	150.21	111.51	8.7	9.0	2.4	2.4
55–250 tonnes*	239.85	135.00	245.52	138.20	8.8	8.7	2.4	2.4
55–250 tonnes†	266.50	150.00	272.80	153.55	8.8	8.7	2.4	2.4
Over 250 tonnes‡	459.00	459.00	470.00	470.00	8.8	8.8	2.4	2.4
<i>Parking charges (over 15 tonnes): per hour the total of both following charges</i>								
Per aircraft	11.12	11.12	11.48	11.48	8.2	8.2	3.2	3.2
Per tonne	0.70	0.70	0.72	0.72	8.7	8.7	2.3	2.3
<i>Passenger charges: per departing passenger</i>								
Domestic	5.65	5.65	6.01	6.01	8.9	8.9	6.4	6.4
Republic of Ireland	6.91	6.91	7.35	7.35	8.8	8.8	6.4	6.4
International	8.58	8.58	9.13	9.13	8.7	8.7	6.4	6.4
Remote stand rebate	1.85	1.85	1.97	1.97	8.8	8.8	6.5	6.5
<i>Typical charge per international rotation</i>								
Boeing 737-800‡	1,513.66	1,408.81	1,599.81	1,492.49	8.7	8.7	5.7	5.9
Boeing 747-400§	4,169.48	4,169.48	4,371.88	4,371.88	8.7	8.7	4.9	4.9
<i>ANS charge</i>								
Per landing			37.90	37.90				
Per tonne (up to 100 tonnes)			1.16	1.16				

Source: CC calculations.

*Chapter 3 minus and chapter 4 aircraft: there are higher charges for noisier aircraft and lower charges for smaller aircraft.

†Chapter 3 base aircraft.

‡Chapter 3 minus, 69 tonnes, 0.5 hour parking, assumed load 145 passengers.

§Chapter 3 base, 390 tonnes, 4 hours parking, 300 passengers.

81. Airlines have in the past benefited from discounts and marketing support, which reduce the net airport charges they pay. BAA largely eliminated discounts and marketing support in 2007/08 and it appears unlikely that there will be any great change for 2008/09. So far BAA is only at the stage of discussing a new discount scheme with airlines, and it appears that this will affect mainly new airlines.

82. We identified two channels through which the increases in price could have affected volume: airlines could have reduced flight frequency or passengers could have substituted away from the airport in response to higher airfares. We found some evidence of a small reduction in capacity, which even if entirely attributable to the increased charges implies a very inelastic response. We found some evidence of reductions in passenger volumes but no evidence of increases in airfares, so cannot rule out that the observed switching occurred for other reasons.

83. We found that seat capacity for summer 2007 was 2.2 per cent higher than in summer 2006, although the rate of increase had fallen compared with the previous year. Ryanair's seat capacity increased by 5 per cent and airlines other than Ryanair showed a 2 per cent increase. Winter 2007 seat capacity has declined about 8 per cent compared with 2006. Ryanair's capacity has also declined by about 8 per cent although this is rather less than suggested by its public statement that it withdrew 7 of its 40 based aircraft.²² This reduction in seat capacity still represents a highly inelastic response to an average net price increase of almost 80 per cent. A reduction in airline seat capacity of 8 to 15 per cent (ie assuming counterfactual growth of zero to 7 per cent) suggests a price elasticity of -0.1 to -0.2 . However, it is possible that the response is non-linear so that there would be a more elastic response to increases beyond the present price level.
84. Extending this analysis to include summer 2008, we find that scheduled summer 2008 seat capacity at start of season is down almost 9 per cent on the summer 2007 start of season figure,²³ although about 3 per cent of this is likely to be accounted for by the season being one week shorter. Looking at summer capacity in 2008 compared with 2006, we see a reduction of 1,367,000 seats, of which 571,000 or 42 per cent of the total was due to Air Berlin switching to operating point-to-point services from Stansted, having given up the previous business model which involved its flights interconnecting there. This decision was attributed to the doubling of APD in February 2007 rather than the increase in airport charges. This was because higher rates of APD made it difficult to operate a UK domestic hub commercially as UK passengers hubbing through Stansted would have had to pay the duty twice. The

²²Its questionnaire response showed that it is planning 33 based aircraft this winter compared with 38 last winter and 40 both this and last summer—this represents a winter to winter reduction of 13 per cent.

²³In order to obtain a consistent comparison, we have taken ACL reports for the season shown. Different reports tend to show different figures for the start of a particular season, presumably due to changes over time in airline plans. For example, the summer 2007 start-of-season report shows 20.916 million seats although the summer 2008 start-of-season report shows 20.241 million seats for the start of summer 2007 season. Although this appears to give the most consistent basis of comparison, comparability may be affected by the month in which the report was compiled: the summer 2007 report was compiled in April 2007 while the summer 2008 was compiled in February 2008.

remaining reduction in capacity may represent a delayed response to the large increase in net prices in April 2007, although it may also reflect other factors such as fuel prices and expected downturn in the economy.

85. Finally we note Ryanair's recent announcement of its plans to reduce weekly flights by 14 per cent at Stansted for the winter 2008 season. This reduction in capacity has been attributed to a combination of the increase in airport charges and fuel prices.

TABLE 8 Selected airlines' and total Stansted scheduled seat capacity (scheduled at start of season)

	'000 seats				% change on previous year		
	2005	2006	2007	2008*	2006	2007	2008
<i>Summer</i>							
Ryanair	10,904	12,066	12,674	12,185	10.7	5.0	-3.9
easyJet	3,725	3,829	3,836	3,671	2.8	0.2	-4.3
Air Berlin	781	1,533	1,520	962	96.3	-0.9	-36.7
German Wings	241	271	288	280	12.5	6.1	-2.8
Sky Europe	264	195	115	0	-26.1	-40.8	-100.0
Total	18,297	20,464	20,916	19,097	11.8	2.2	-8.7
<i>Winter</i>							
Ryanair	7,794	7,988	7,315		2.5	-8.4	
easyJet	2,252	2,312	2,293		2.7	-0.8	
Air Berlin	573	988	792		72.3	-19.8	
German Wings	159	179	201		12.5	12.0	
Sky Europe	176	83	0		-53.0	-100.0	
Total	12,092	12,899	11,824		6.7	-8.3	

Source: ACL reports on ACL website for the season shown.

*Summer 2008 has 30 weeks in the season. Summer 2007 had 31 weeks.

86. With regard to passenger switching due to higher airfares, Ryanair told us in its questionnaire response that it was unable to pass on the higher airport charges to passengers. It also provided us with data on the change in average yield per departing passenger compared with the previous year, before and after the increase in airport charges. We found evidence of a general tendency for yields to fall *more* relative to the previous year after the date of the charge increase, rather than to increase²⁴ which would be the case if charges were passed on. This is shown in Figure 5, and in the additional charts in Appendix 2. Although this analysis may be affected by other factors such as variability in route yields, an exogenous downturn in

²⁴Or at least to fall less.

demand for Stansted and the date of Easter, we concluded that there was no evidence that Ryanair was able to pass the charge increases on.

87. The CAA pointed out that this suggested that demand was highly elastic and/or the airlines faced competitive constraints that prevented their prices being increased. It also pointed out that care must be taken when analysing recent changes in airline yields given the overall trend towards airlines generating revenues from ancillary revenues. We agree that it suggests that passenger demand was relatively elastic but do not agree that it says the same thing about airline demand, which showed an inelastic response. On balance, we do not think the fact that airlines were forced to absorb the charge increase can be interpreted as evidence of a competitive constraint on Stansted when we do not know the limit to airlines absorbing future increases or how passengers would react if they were to pass on charges.

FIGURE 5

Change in Ryanair yields compared with 12 months earlier



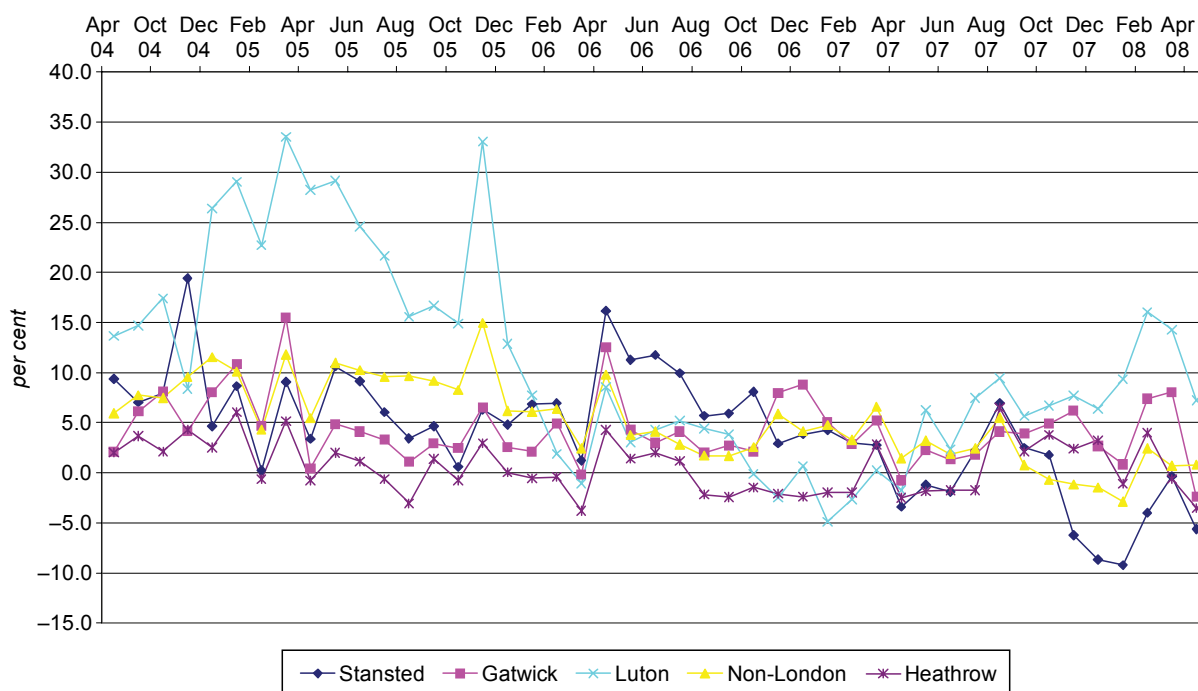
Source: CC analysis based on Ryanair data.

88. Looking at the year-on-year change in passenger volumes at airports in the South-East, we found some evidence of a drop in Stansted passenger volume from April, and in particular a modest switch to Luton. There is also perhaps some recent indication of an increase at Gatwick compared with non-London airports.²⁵

²⁵Total passenger numbers at UK airports other than Heathrow, Gatwick, Stansted and Luton.

FIGURE 6

Annual change in passenger numbers: Stansted versus other airports



Source: CAA.

89. Table 9 shows year-on-year changes for the last three years, again showing the drop compared with previous years. However, in the absence of evidence that relative fare changes were behind the observed trends, it is not possible to attribute this switching to the charge increase.

TABLE 9 Change in passenger numbers on previous year (April to March)

	<i>per cent</i>				
	<i>Stansted</i>	<i>Gatwick</i>	<i>Luton</i>	<i>Heathrow</i>	<i>Non-London</i>
2005/06	5.2	2.8	16.6	-0.3	8.4
2006/07	7.3	4.7	2.0	-0.2	4.0
2007/08	-1.3	3.4	7.2	1.0	1.3

Source: CAA.

90. We note here that the CAA did not consider the profitability of the April 2007 price increase as evidence of market power but rather as a move towards the competitive price level permitted by the expiry of long-term contracts that had been holding prices

below the competitive level. This is an important consideration and so we look first at whether Stansted could increase prices further in paragraphs 91 to 119 and then at the issue of where the competitive price level might be in paragraphs 120 to 152.

Profitability of future price increases

91. The preceding analysis suggests that, at least for Ryanair in summer 2007, there was fairly little change in airport usage and little evidence of pass-through as a result of higher charges. This would suggest that the main effect of the increase in airport charges was to transfer profits from Ryanair to BAA. However, there must be a limit to this process: as airport charges rise further, some routes become unprofitable and consequently capacity is reduced and fares rise. It is obviously of considerable interest at what point airport charges become unprofitable.

CAA critical loss

92. One approach to assessing the profitability of further increases in charges is to calculate the biggest loss in volume that could be afforded for a given charges increase (known as the critical loss) and compare it with the actual loss that would occur given customers' responses. The CAA used this approach in its analysis of Stansted de-designation. The CAA's assumptions imply that each additional passenger generates additional retail and car-parking revenue of £2.16 but short-run additional costs of £0.78, representing net additional revenue of £1.38. This then gives rise to the calculations of critical loss in Table 10. We have not reviewed the CAA's revenue and cost assumptions.

TABLE 10 Loss in passenger numbers rendering various levels of Stansted airport charges unprofitable

Assumed airport charge per passenger	5.50	6.50	7.50	8.50	9.50	10.50
Net revenue per additional passenger	1.38	1.38	1.38	1.38	1.38	1.38
Breakeven passenger numbers*	24.00	20.95	18.59	16.71	15.17	13.90
Cumulative change in passengers (%)		-12.7	-22.5	-30.4	-36.8	-42.1
Difference in passengers per £1 increase in airport charges (%)		-12.7	-11.3	-10.1	-9.2	-8.4

Source: CC calculations based on CAA critical loss assumptions. This analysis does not cover non-passenger (freight) flights but non-passenger airport charges account for only about 5 per cent of total airport charges.

*Number of passengers at which profit is same as at £5.50 airport charge per passenger.

93. The other aspect of the analysis is the level of actual loss in demand that the airport would experience with higher charges. Loss in demand may arise either from passengers switching to existing services at alternative airports or from airlines switching their Stansted services to alternative airports (though this may be constrained by lack of spare capacity at the alternatives). In 2006, the CAA added some questions to its passenger survey asking about alternative airports: one asked passengers what they would have done if each flight from Stansted had increased in price by £5. Answers to this question are relevant to passengers switching to alternative services and might also be relevant to airlines' ability to switch services, as most Stansted passengers are travelling on routes also served from other airports.²⁶ Responses (for UK leisure short-haul scheduled passengers) showed that 17 per cent would switch airport or not travel in response to a £5 price increase. Comparison with Table 10 suggests that this is below the critical loss of 42 per cent for a £5 increase, suggesting that Stansted could profitably impose a further price increase of £5 (91 per cent); on these assumptions, smaller price increases would also be profitable. The analysis also assumes that airlines pass on the charge increases in full: if they pass on only a proportion of the increase, the passenger response would be even less.

²⁶Results would be less relevant to airlines' ability to switch to the extent that Stansted fares are lower than at alternative airports or passengers prefer airlines only operating from Stansted.

94. The CAA expressed the calculation in a different way. It stated that a 5 per cent increase in charges would be profitable if it resulted in a reduction in passenger numbers of less than 0.9mppa, or 3.75 per cent. It compared this with a reduction in leisure passengers of the order of 0.6mppa in response to a 10 per cent increase in charges and concluded that passenger responsiveness on its own would be insufficient to act as a constraint.
95. The CAA does not appear to place any weight on its critical loss calculation and concluded that an operator of Stansted might require control of airports located outside the London area to find an increase in price profitable. This is because it thought that the implied degree of passenger switching would understate the true switching that would occur in response to a price increase because it assumed that airlines would not change their behaviour. It placed strong weight on the likely response of airlines, which it considered would be driven by the airports that passengers switched to. As discussed previously, its survey results showed that over 40 per cent of passengers using Stansted who would have preferred to use an alternative airport indicated a preference for a non-London airport including Birmingham, Southampton, Bristol and East Midlands.
96. Looking at the likely response of airlines, the CAA found that a 20 per cent increase in charges at Stansted would cause a 5.6 per cent reduction in Ryanair's group profits and a 2.3 per cent reduction in easyJet's group profits. This assumed that the increase was absorbed in full by the airlines. It did not look at whether it would be profitable for airlines to pass the charge increases on to passengers, stating that passenger demand appeared relatively sensitive to relative changes in airfare. Instead it concluded that higher airport charges would cause airlines to consider switching existing services and/or growth to other airports. Given the evidence on passenger preferences and its finding that switching costs were low, it thought it

likely that airlines would be willing to relocate some services or growth plans between the London-area airports and between these airports and Birmingham and East Midlands airports.

97. As stated previously, we do not consider that airlines would switch services to Birmingham and East Midlands airports in response to a price increase at Stansted because they would be unlikely to attract sufficient traffic to make the move profitable. We note in this context that at the time of the Stansted charge increases, Ryanair could have switched a large number of services to East Midlands where it was paying charges of £[redacted] a passenger but chose not to do so. Whilst airlines could in principle switch to Luton or Gatwick, their ability to do so will be limited in practice by the existence of capacity constraints.

Comparison of traffic and fares at Stansted and Gatwick

98. An alternative approach to estimating the effect on volume of higher airport charges might be to compare traffic and fares at different airports. Table 11 shows a comparison of Ryanair's Gatwick–Dublin and Stansted–Dublin services. Ryanair's Gatwick prices in 2006/07 (2005/06) were about £[redacted] and volumes [redacted] per cent ([redacted]).²⁷ Comparing figures in Table 10 (ie assuming that demand curves for Stansted and Gatwick are the same) would again seem to imply that an increase in airport charges of £5 would be profitable. However, the underlying level of demand for flights from Gatwick is likely to be higher than for Stansted. Table 11 also shows the results of assuming that Gatwick demand is 65 per cent higher (this is in line with preferences of passengers on all routes from the CAA survey questions²⁸): on this

²⁷It appears reasonable to interpret this as revealing information about demand curve (Ryanair offers less capacity from Gatwick which is not a Ryanair base and cannot easily become one.) Other routes offered by Ryanair from both Stansted and Gatwick appear unsuitable for this analysis as the Gatwick routes (Cork and Shannon) were started recently.

²⁸This represents the average of first preferences (Gatwick 57 per cent greater) and first or second preferences (Gatwick 74 per cent greater). Source: CC analysis of CAA supplementary questions (which covered UK short-haul leisure passengers only).

basis,²⁹ comparison with Table 10 suggests that the full £5 increase in airport charges would not be profitable but, assuming a linear demand curve, a smaller increase of at least £1 (18 per cent) would still be profitable (Table 11 suggests that a £1 price increase would lead to a demand loss of 10 to 12 per cent which is less than the critical loss of 12.7 per cent shown in Table 10). Of course, this evidence needs to be viewed with caution as it relates to just one route, which is not necessarily representative,³⁰ and involves making assumptions about relative demand which might not apply to that route.

TABLE 11 Comparison of Stansted and Gatwick yields and volumes on Dublin route

	Ryanair yield		Ryanair passengers		Total passengers*	
	Jul 06	Jul 07	Jul 06	Jul 07	Jul 06	Jul 07
12 months to Gatwick						
Stansted			✕			
Difference:						
Gatwick less Stansted			✕			
Difference per £‡			-8%	-7%	-7%	-5%
Difference if Gatwick catchment bigger†				✕		
Difference per £‡			-11%	-12%	-10%	-11%

Source: CC calculations based on information from Ryanair and BA.

*Includes BA economy passengers on semi-flexible tickets (109,000 in both years). BA average yield for these passengers was about £8 higher in the year to July 2006 and £10 higher in the year to July 2007. We interpret this as reflecting quality difference.

†Assumes that Gatwick's catchment is 65 per cent bigger than Stansted's.

‡Difference in passenger numbers divided by difference in yield.

Frontier analysis

99. We have also looked in detail at Frontier's discrete choice analysis using easyJet's transaction data. Frontier came up with a number of interesting conclusions including that moving a service from Stansted to East Midlands would lead to a very large loss

²⁹Assuming that Gatwick demand is 65 per cent higher at every price.

³⁰The CAA noted that the Stansted–Dublin route was unlikely to be representative of the average route at Stansted, as it was the largest single destination served by the airport and was a destination served solely by Ryanair.

in passengers and that fare elasticities were typically of a similar order of magnitude to distance elasticities, which were high.³¹

100. However, after reviewing the Frontier work and conducting our own analysis of the easyJet data, which estimated very low price elasticities, we found that there were flaws in using the easyJet data for this type of analysis. These flaws arise from three main sources. First, the models do not include prices for flights with alternative airlines, which results in underestimated price and distance elasticities. Secondly, many consumers may perceive prices to be too high and decide not to fly at all or fly on a different route, in which case the estimated conditional elasticities again represent a lower bound of the unconditional elasticities. The difference between estimated and unconditional elasticities could be large if the aggregate demand for easyJet flights is very elastic, which seems likely. Finally, we found that the airport choices made by passengers and the decisions taken by easyJet regarding from which airports to operate, what frequency of service to offer and how to set airfares are endogenous. As a consequence, because of small monetary gains relative to the cost of transportation, we do not observe many passengers travelling to airports which are located further away from their homes. We may, however, observe more individuals moving between airports if price differences were sufficiently large. Finally, we note the CAA's observation that easyJet's services might not be marginal services, understating actual elasticities.

101. Despite these limitations, we note that the results of this analysis are consistent with other evidence we have seen on competition at Stansted and therefore support our finding.

³¹ [X]

Countervailing buyer power

102. One factor that could limit Stansted's ability to increase charges above current levels is buyer power. There are a number of reasons to think that it may be more appropriate to consider that in the absence of regulation, charges at Stansted would be determined by bilateral negotiations rather than set at the monopoly level. First, it may be that at least at present Stansted's major customers (Ryanair and easyJet) have some degree of bargaining power.³² Second, we understand that prior to 2007/08, charges were negotiated between the airport³³ and the airline, and it is likely that negotiations would be attractive to BAA if it raised prices further. Indeed, as discussed below, we understand that BAA is currently seeking to re-establish longer-term negotiated deals with selected airlines.
103. In theory the negotiated price will be between the competitive price and the monopoly price. Economic theory suggests that when prices are set by bargaining, the price level will depend on two factors.³⁴ The value of the seller's outside option and the value of the buyer's outside option. The outside option for each party is the profit that it would get if it failed to reach an agreement and had to switch to the next best alternative, less the costs of switching.

³²We can assess the extent of Ryanair's (for example) bargaining power by considering what would happen to BAA at Stansted if they decided to stop using Stansted airport. This is an extreme example of buyer power, as the OFT guidelines suggest the test for buyer power is whether customers can make a significant reduction in their use of a supplier rather than stop purchasing altogether. Given the importance of Ryanair to Stansted (it accounts for over 60 per cent of passenger volumes), it seems unlikely that BAA would be able to replace it quickly and easily. It also seems unlikely that BAA could make the same profit by selling to another airline, such as easyJet. Although easyJet accounts for a significantly smaller volume of passengers at Stansted (about 20 per cent) it seems reasonable to expect that these conditions would also hold for easyJet, because BAA could not quickly and easily replace these passenger volumes at Stansted.

³³At Stansted unpublished discounts are negotiated on an individual basis with airlines. The discounts tend to take the form of either an all inclusive per departing passenger charge or a percentage discount off the published tariff. All unpublished discounts are confidential. Discounts for major carriers were negotiated as a rate per departing passenger. Discount packages were structured around incentivizing new route development. Discount agreements lasted for a number of years, typically between three and five years, with the discount declining over time (as routes mature), ie the all inclusive departing passenger rates increased each year. From 2006, new discount agreements tend to be given on a % discount of published charges and to be of shorter duration. These discounts have been offered to carriers entering into new market segments which have not typically been served from Stansted. BAA is currently renegotiating charges at Stansted with the airlines. The documents provided by BAA show that the discount scheme is aimed at attracting long-haul traffic and new routes. We understand that BAA will not offer discounts on existing routes.

³⁴Strictly speaking, there are a number of alternative models of bargaining. The most common approach to predicting the outcome of bargaining situations is the Nash Bargaining Solution. This theory suggests that the negotiated price will be that price which maximizes the product of the gains from trade that each party realises. For each party to the negotiation, the gain from trade at any given price is the difference between the profits they would get at that price, less the value of the outside option.

104. Clearly the value of the outside option to both buyer and seller depends on the degree of substitutability. For a seller (the airport), the degree of substitutability between different buyers (the airlines) is relevant and the closer available substitutes are, and the lower are switching costs, the greater the value of the seller's outside option. For a buyer, the degree of substitutability between different sellers is relevant and the closer available substitutes are, and the lower are switching costs, the greater the value of the buyer's outside option.
105. In the context of negotiating airport charges at Stansted, the value of the airport's outside option depends on the substitutability of airlines and on the costs of switching airlines. The value of the airline's outside option depends on the substitutability and availability of airports and on the costs of switching airports.
106. Because airports and airlines are not all the same, it is likely that their outside options will be different for different airlines and airports. This means if prices were set in this way, we would expect to see airports negotiate different charges with different airlines (and airlines will negotiate different charges with different airports). This is consistent with the evidence on charges that we have seen in the past at Stansted, suggesting that at least in the past Stansted's price-setting has been constrained by airlines' bargaining power. However, the recent removal of discounts calls into question whether this is still the case.
107. In this respect we must consider the role of capacity constraints. Stansted airport is approaching capacity in certain peak periods and its only potential competitor, Luton, is constrained by a lack of overnight parking. This will affect the level of the charges that the airport negotiates with the airlines because Stansted's bargaining power with the airlines increases as passenger demand increases. This is because as demand increases and supply remains fixed, it will be easier for Stansted to replace any one

of its airlines.³⁵ Capacity constraints at rival airports also reduce the value of the airlines' outside option, reinforcing this position.

108. The unilateral increase in charges in 2006/07 suggests that BAA has a very strong bargaining position with all of its airlines. In a bargaining framework, the price increase can be explained in a number of ways. First, it could reflect a change in underlying market conditions, but this seems unlikely.³⁶ Or, it could be that BAA was trying to assess how airlines would respond to increases in charges in order to inform it in future negotiations. This is the most likely explanation and, given the airlines' responses to such significant price increases, it tends to suggest that BAA has a strong bargaining position and likely could further increase charges in the absence of regulation.
109. The CAA considers the former explanation more reasonable, that the price increase was a movement along the competitive price path permitted by the expiry of long-term contracts. They point to a number of changes in market conditions, including growing demand and resulting increases in capacity scarcity, as well as changes in costs of operation (in particular in relation to security requirements). We address this issue in the subsequent section on where the competitive price level might be.
110. The ongoing negotiations between BAA and the airlines for 2007/08 charges are also informative, and also suggest that BAA has a very strong bargaining position. The documents provided by BAA show that it is offering discounts to airlines only for long-haul traffic and new routes and not on existing routes.³⁷ If airlines accept these higher charges without negotiating discounts, it might indicate that they do not have

³⁵The role of capacity at Stansted was discussed in the working paper on the effect of price increases at Stansted in April 2007. That paper concluded that the evidence of full use of Stansted capacity at peak times in summer suggests current prices at summer peak times are not above (and may well be below) competitive prices, while the existence of spare capacity in winter suggests that current winter prices might be above competitive winter prices.

³⁶In particular, we are not aware of any changes at Stansted or other airports that would have affected BAA's bargaining position with respect to all airlines using Stansted airport.

³⁷BAA response to Q14 of CC data request 27 May 2008.

any bargaining power (because of limited availability of suitable alternative airports) and so BAA is able to behave as an effective monopolist. This is consistent with what Ryanair has told us regarding the importance of the London area to its network and its need to operate from BAA's airports in order to serve that market. Whilst airlines may be able to switch some marginal services to Luton, the lack of spare capacity will limit their ability to do so. This suggests airlines could not threaten to switch enough of their traffic to non-BAA London airports for them to be considered to hold buyer power.

111. However, this must be qualified by the fact that we understand some of the offers [redacted] to be very generous. Furthermore the fact BAA is actually negotiating with airlines is of significance because an effective monopolist subject to a price cap would simply offer tariff rebates for off-peak usage in the knowledge these could be offset by higher peak prices.
112. On balance, we feel the qualitative evidence reviewed here regarding past and current negotiations suggests that BAA has a considerable degree of bargaining power with the airlines and could likely increase charges above the current level.

BAA's current pricing behaviour

113. The maximum allowable yield under the price cap in 2007/08 was £5.50 per passenger for passenger flights excluding the correction factor and £6.44 including the correction factor. BAA set tariffs to yield £5.50 per passenger in 2007/08 and table 3.1 of CAA's reference suggests that the average net charge for all flights in this period was £5.82.³⁸

³⁸There are two main reasons why the average net charge per passenger in 2007/08 was above the maximum price cap excluding the correction factor. First, the numbers in CAA's calculations include non-passenger flights (which pay airport charges but have no passengers). Second, forecast errors may have led BAA to overestimate passenger volumes.

114. The CAA has argued that Stansted's historical pricing has been below the long-run average competitive level, using this in conjunction with evidence on competitive constraints to conclude that Stansted does not hold a position of substantial market power at present and that the balance of probability is that it is unlikely to do so for the foreseeable future. The implication is that competitive constraints have held Stansted's prices below the (long run) competitive level.

115. We consider an alternative explanation for Stansted's pricing behaviour.

116. [✂]

117. [✂]

118. [✂]

119. The absence of calculations of how much traffic would be lost if prices increased in any of these discussions combined with the weak competitive constraints considered earlier lead us to conclude that BAA could profitably increase charges at Stansted above their current levels. As the appropriate test of market power is whether the airport could increase charges above the competitive level, we now turn to the issue of where current prices are in relation to the competitive price.

Competitive price at Stansted

Background and theory

120. We are interested in the competitive price for airport charges at Stansted, which we take to mean the price per passenger that an unregulated airport operator would charge airlines for use of their facilities in a well-functioning market. Estimating the competitive price level will be informative about the potential distortions to investment

incentives under a RAB-based price cap that have been suggested by both the CAA and Luton airport. This could occur if a price cap holding price below the competitive price level at Stansted acted as a disincentive to capacity expansion for competing airports.³⁹ We note that our estimates relate to Stansted only and are intended to guide our thinking rather than to provide a precise estimate of the competitive price.

121. It is a standard result that price will be equal to short-run marginal cost where:
- there are many producers all selling an identical product;
 - there is free entry into and exit from the market; and
 - there is perfect information.
122. In such a market, known as a perfectly competitive market, no producer can unilaterally affect price because their potential output is too small relative to demand. Instead price is determined by the intersection of industry demand and supply curves. Entry and exit occurs until all firms are making normal returns in the long run.
123. In some circumstances, these assumptions can be restrictive and they may have limited applicability to industry like airports, where the costs of entry are large and the product offering differentiated. However, even where the assumptions of perfect competition are not met, it is possible to say that the more intense the rivalry between firms, the closer prices will be driven to the perfectly competitive benchmark level of short run marginal cost. We also note here that a market-determined (ie non-regulated) price will adjust until industry supply is equal to industry demand, and price is equal to the willingness to pay of the marginal user. If the price is lower than this point due to regulation, there will be excess demand.

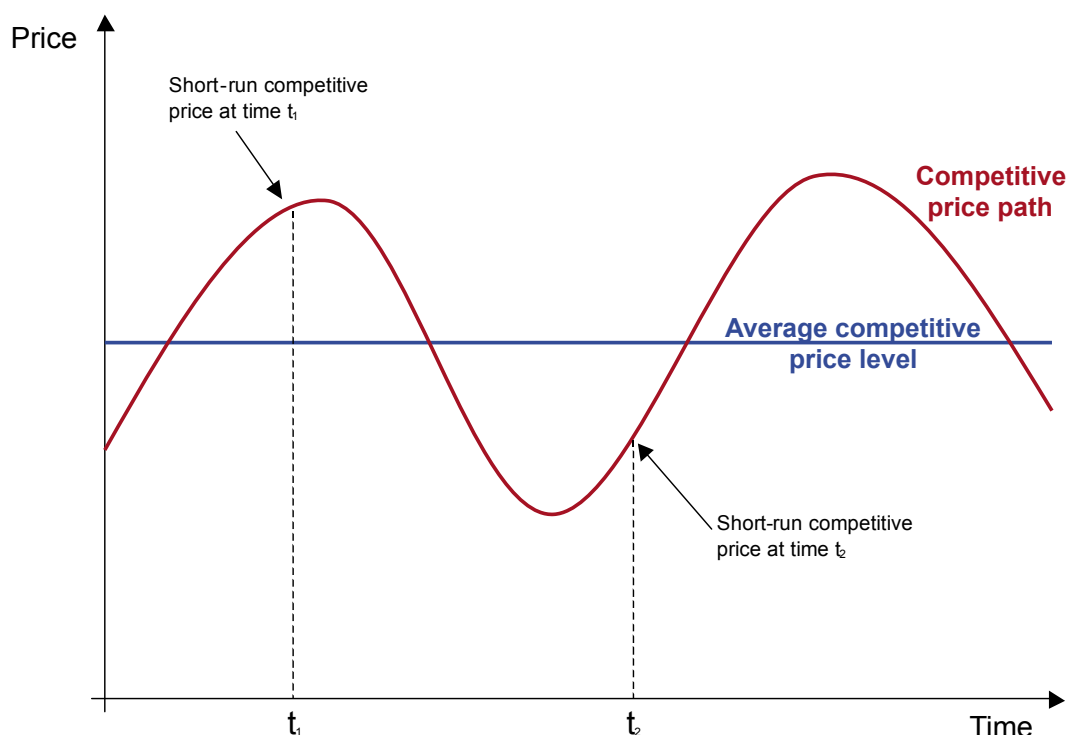
³⁹Other potential distortions to investment incentives under a RAB-based price cap, including potential incentives to over-invest, are not considered here.

124. The path of the competitive price over time will depend on the behaviour of industry costs at various stages of capacity utilization. When there is significant excess capacity, large fixed costs are spread over a small number of users and the cost of accommodating an additional passenger could be very low. As an airport nears capacity, however, marginal costs will be higher. This could be because of increasing congestion costs⁴⁰ or because incremental adjustments to capacity become increasingly expensive. In the limit, marginal cost is very high as it becomes impossible to accommodate another passenger without building another runway and/or terminal. At this point, the competitive price is still the point at which demand equals supply but is now determined by the willingness to pay of the marginal user, rather than the cost of serving them.
125. In practice the competitive price could vary over the course of the day. This is because airports can reach capacity at peak hours before they reach full capacity in all hours. The cost of serving an additional passenger in an off-peak hour could be significantly lower than in a peak hour, where additional capital expenditure would likely be required. Such differential pricing across different hours of the day would be normal in a competitive industry and would encourage efficient use of resources. Luton airport has told us that it [✂].
126. The CAA has proposed the following model for the competitive price path, in which the short-run competitive price varies above and below its long-run average level to reflect periods of relative capacity abundance and scarcity.

⁴⁰For example, payments made to airlines for failure to deliver on Service Level Agreements (SLAs) which specify the minimum level of quality (eg queue times) the airport must provide.

FIGURE 7

CAA diagram of competitive price path



Source: CAA.

127. Based on this short-run price profile, the CAA has proposed the following methodology for estimating the competitive price. Estimate the long-run average competitive price level over the course of the asset life; understand how prices might vary around this long run level with estimates of short-run marginal cost being potentially useful in determining the low point on the price path; understand how far prices must rise above average to deliver an NPV of revenues equal to costs; and finally use evidence on capacity scarcity to judge where along the competitive path we are likely to be currently and going forward. The CAA has focused on measures of LRAIC as a reasonable proxy for the long-run average competitive price level.
128. CAA indicative estimates of LRAIC at Stansted range from £5 to £14.50 per passenger, with, in its view, most of the likely scenarios falling within £8.50 to £12.50. Our own calculations based on SG2 costs and the incremental traffic a second

runway would support result in a LRAIC of around £12.50, although we note these are based on BAA's own assessment of SG2 costs and the profile, and size, of incremental traffic. The airlines and our own consultants have questioned BAA's assumptions on costs and traffic and so there is a large degree of uncertainty attached to our estimate. If we adopt the CAA's model, these high estimates of LRAIC could be interpreted as evidence that current prices are below the long-run competitive price level. However, it is not clear that LRAIC calculated in this way can be used to approximate the price of a well-functioning market for the period in which we are interested.

129. We discuss the theoretical aspects of LRAIC in more detail in a separate working paper. That paper makes it clear we do not disagree that LRAIC could in principle be used to approximate the average competitive price over the lifetime of the assets over which it is computed. However, we also point out in that paper that LRAIC is not the only methodology for approximating the long-run competitive price: both the replacement cost and RAB approaches attempt to estimate the competitive price in different ways, and there is considerable uncertainty attached to the LRAIC estimates.

130. In the case at hand we see problems with using a forward-looking measure of costs that includes the cost of investing in a new runway. This is because we are interested in the evolution of the competitive price over the next quinquennium, during which time our analysis of capacity and traffic forecasts suggests significant expansions to capacity will not be necessary. If, as it appears, the costs of large expansions will be significantly higher in the future than they have been in the past, it is likely there will

be a discontinuity in the long-run average price level at the date investment in a new runway becomes economic.⁴¹

131. This suggests a LRAIC computed over existing assets could be the relevant benchmark for long-run competitive price level for the period we are interested in. However, our view is given the uncertainty surrounding any estimate we could produce within the relevant timescale for this review, it is of limited use in our assessment of competitive price. We note here that previous high-level analysis suggests a replacement cost in the region of £6.50,⁴² although there are a number of problems with this estimate including the assumption that all investment was efficiently undertaken.
132. Finally we have some doubts about the CAA's characterization of a cyclical price path is correct as it has not explained what drives this path. Such a price profile could theoretically arise as a result of smooth decreases and increases in marginal cost resulting from economies and diseconomies of scale respectively. However, this is not borne out by an examination of total costs and passenger volumes at Stansted and Luton, which suggests a constant marginal cost even over large ranges of output. The CAA has also suggested the price profile could be driven by changes in the relative bargaining position of airports and airlines. Our current view is that this is a descriptive model rather than a competitive benchmark, which, due to efficiency reasons, should be related to the behaviour of short-run marginal cost. It is also unclear why a bargaining model would necessarily result in a smooth transition of power.

⁴¹For example, consider a scenario in which the willingness to pay of the marginal user when the airport is at capacity is £12; the marginal cost of an additional passenger until capacity is reached is £3; and the long-run average incremental cost including a new runway is £15. If the airport does not reach capacity in any hour of the day, the average competitive price should be driven towards £3 (allowing for cost recovery). As the airport reaches capacity in an increasing number of hours of the day, the average competitive price would increase towards £12. However, it would not reach £15, the long-run average incremental cost, during the period because the investment over which the LRAIC is computed is not economic in this case. The point here is that whether LRAIC is £15 or £20 has no bearing on the competitive price profile for the period concerned, and so is of no relevance for this calculation.

⁴²The CAA suggest the estimate should be £5.60 but note it is a low-case estimate that assumes assets were fully utilized on their opening day.

133. Our current view is that a more appropriate characterization of the price path in a well-functioning market is one in which prices are driven close towards marginal cost until the airport reaches capacity in some hours of the day. Because the competitive price can vary over the course of the day, the average price would then increase relatively gradually as an increasing number of hours become constrained. Once the airport is fully utilized at all times, price would then be determined by willingness to pay of the marginal user. Our current view of what is needed for an understanding of where the competitive price level might be over the next quinquennium is therefore an understanding of how short-run marginal costs and willingness to pay are likely to evolve, and in how many hours of the day capacity is likely to be constrained. A competitive price determined in this way provides appropriate signals for investment because price is kept down by lower off-peak charges until the airport reaches its capacity, encouraging better use to be made of existing space before expansion is undertaken.
134. Figure 8 shows a simplified version of how price-setting might occur in a competitive airport market. Figure 8a shows that until capacity is reached, the industry supply curve is positively sloped. This is because at the lowest prices only airports with very low costs can profitably provide services. As price increases, suppliers can afford to provide access to more costly facilities and capacity increases as a result. Once capacity is reached, however, the supply curve becomes vertical to reflect the fact that there is no price increase that could make further expansion profitable for any supplier. The marginal cost curve in Figure 8b is drawn to reflect the likely behaviour of airport costs outlined above. The demand for airport services is derived from the demand for air travel. This means the slope of the industry demand curve will be related to the slope of passenger demand to fly, but will depend also on the proportion of total airline costs accounted for by airport charges and on the mark-up of fares over cost.

FIGURE 8

Determination of the competitive market price

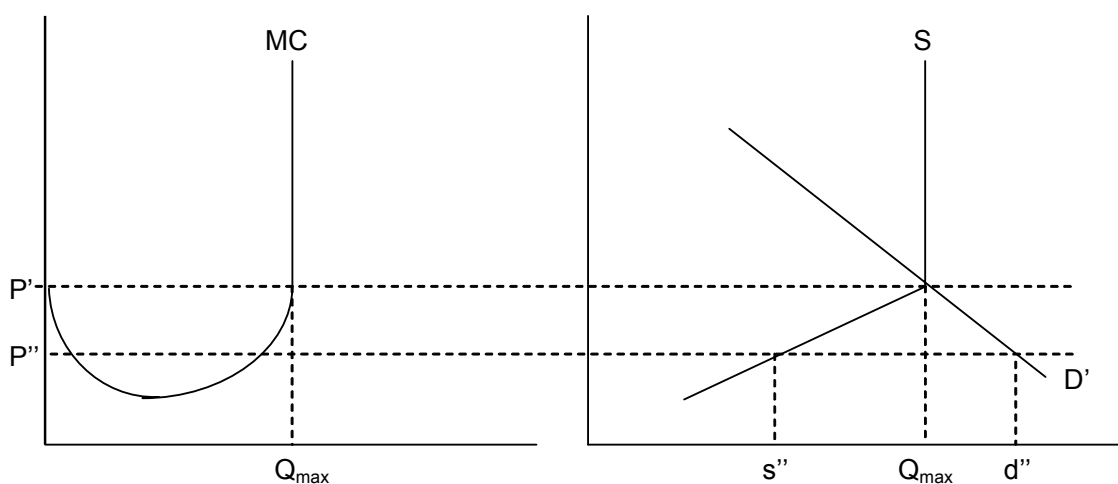


Figure 8a Firm supply and demand

Figure 8b Industry supply and demand

Source: CC.

135. A few main points are worth noting from the above:

- The competitive price will follow (short-run marginal) costs until capacity is reached.
- When full capacity is reached, the competitive price will equal the willingness to pay of the marginal user.
- When capacity is reached in some hours of the day but not others, the competitive price could vary considerably over the course of the day.
- Whenever actual price is below the competitive price, there will be excess demand. This can be seen in the above diagram where the competitive price is equal to P' . If the price charged is capped at P'' , industry demand will be d'' which is greater than the industry supply of s'' .

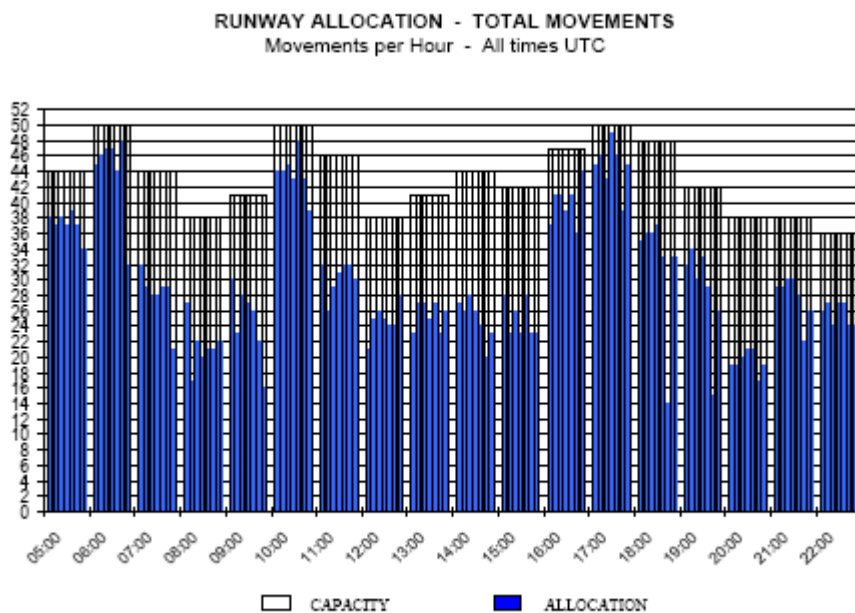
Estimating short-run marginal cost

136. The most recent start of season scheduling report from ACL shown below indicates there is still a reasonable degree of spare capacity at Stansted even in peak hours of the day. Furthermore, we do not observe any slot trades at Stansted. This means

that a useful guide to the competitive price will be some mark-up over marginal costs. It also suggests that the current price is at least as high as the price that would be observed in a well-functioning market which would be expected to vary to clear the market.

FIGURE 9

Excerpt from summer 2008 ACL Start of Season Scheduling Report for Stansted



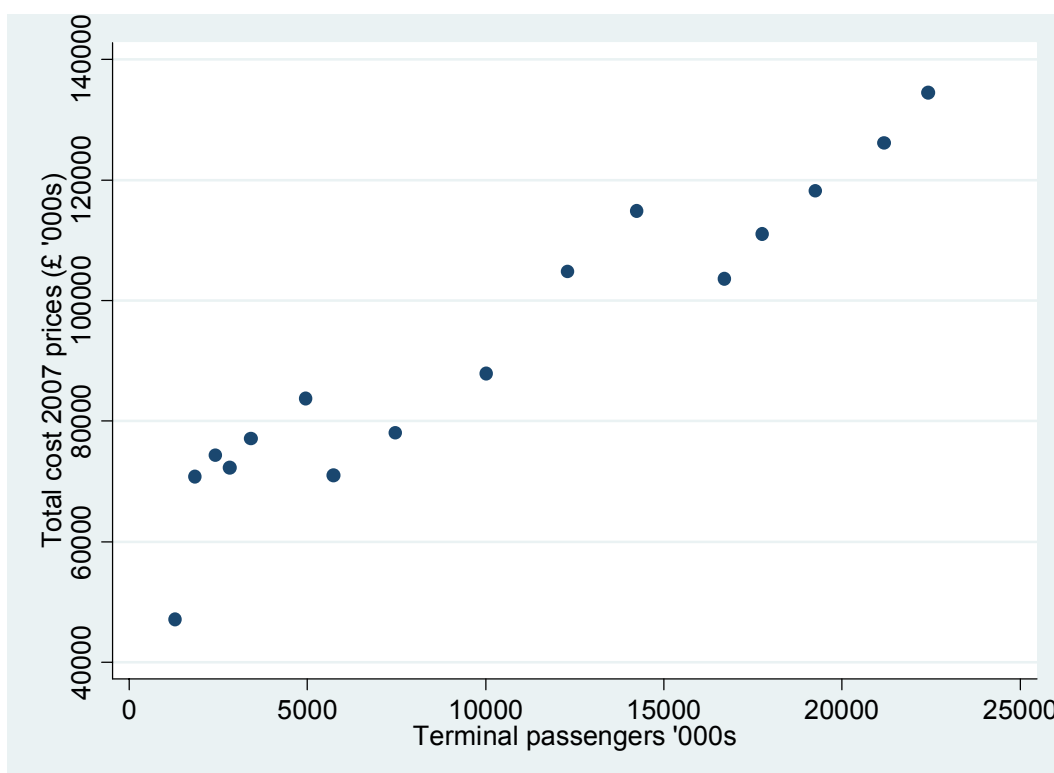
Source: ACL.

137. We use a number of measures to estimate short-run marginal cost at Stansted but, as noted above, these are to provide a guide and should not be seen as precise estimates. The first of these is to estimate a cost function based on historic data at Stansted on passenger volumes and total costs. The estimated cost function can be used to compute the marginal cost as the increase in costs attributable to an additional passenger. This method will overstate the marginal cost for aeronautical services as total costs include costs of providing other services, for example car parking. It is nonetheless useful as an upper bound.

138. Figure 10 shows how total costs (in current prices) have varied with passenger numbers at Stansted. There appears to be a strong linear relationship between costs and passenger volumes. This is interesting as it suggests Stansted has not yet reached a level of capacity utilisation where the cost of serving an additional passenger is increasing.

FIGURE 10

Relationship between total costs and passenger volumes at Stansted, 1990 to 2007



Source: Past CC reports, CAA, Companies House, ONS.

139. Results from an OLS regression of total costs in 2007 prices on passenger volumes from 1990 to 2007 are given in Table 12. The coefficient on passenger volumes gives an estimate of marginal cost of £3.11. Whilst the model fits the data very well, explaining over 90 per cent of the variation in total cost over the period, it is only based on 16 observations. We note the cost data does not cover any period where significant runway expansion has taken place and so estimates the short run

marginal cost of an additional passenger that can be accommodated within existing capacity.

TABLE 12 Regression of total costs (in 2007 prices) on passenger volumes at Stansted

	<i>Coefficient</i>	<i>t-value</i>
Pax	3.114	(11.70)**
Constant	60,321,208.58	(18.07)**
Observations	16	
R-squared	0.91	

Source:

*Significant at 5%; ** significant at 1%.

Note: Absolute value of t statistics in parentheses.

140. For comparison results from a similar regression for Luton are given in the Table 13 and suggest a marginal cost per passenger of £4.82. This model does not fit the data as well as the Stansted model, but still explains over 80 per cent of variation in total costs but, again, is based on a small number of observations. Looking at a graph of costs against passenger volume suggests that a linear model still provides the best fit for the data but there are other factors affecting costs not included in the model. If these are correlated with passenger volume they could bias results but there is no obvious reason to think this would be the case.

TABLE 13 Regression of total costs on passenger volumes at Luton

	<i>Coefficient</i>	<i>t-value</i>
Pax	4.82	(8.57)**
Constant	26,011,793	(8.77)**
Observations	17	
R-squared	0.83	

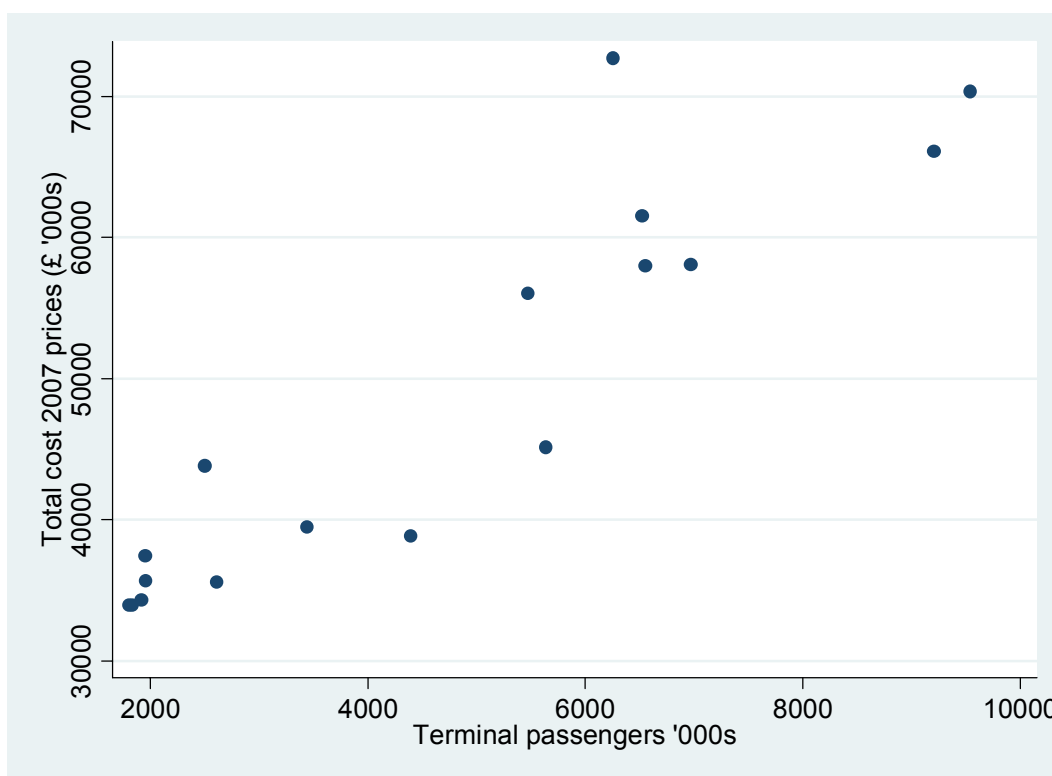
Source:

*Significant at 5%; ** significant at 1%.

Note: Absolute value of t statistics in parentheses.

FIGURE 11

Relationship between total costs and passenger volume at Luton



Source: Luton Borough Council, Companies House, CAA, ONS.

141. As a sense check, we look at other means of estimating marginal cost at Stansted. The CAA have made some assumptions about how opex changes with passenger volumes as part of their opex methodology, which estimates a baseline level of efficient opex that it rolls forward to account for projected volume growth and proposed efficiency improvements. Table 14 applies the opex elasticity used by the CAA of 0.3 to current passenger volumes, and finds that the implied marginal cost is £1.52. However, this will understate the true marginal cost as it excludes increases in capex attributable to an additional passenger.

TABLE 14 **Marginal cost implied by opex elasticity**

Pax before	24,032,000
Pax after	25,032,000
% increase in pax	4.16%
% increase in opex	1.25%
Total cost before	£122,069,000
Total cost after	£123,592,831
Marginal cost	£1.52

Source: CAA, BAA financial model, CC calculations.

142. Table 15 uses the assumptions built into the BAA model to see how both opex and capex increase in response to small increases in passenger volumes. We find that the implied marginal cost is £4.92 in 2010/11.

TABLE 15 **Marginal cost implied by BAA model for Stansted**

	2010/11	2011/12	2012/13
Total baseline pax ('000)			
Total operating cost (TOC) baseline ('000)			
TOC following increase of: 1m pax		✂	
Implied marginal cost			

Source: BAA financial model.

143. We used CAA assumptions from their critical loss analysis on the proportion of operating costs that are variable to estimate marginal costs at Stansted. We find that average variable operating cost is £0.98 per passenger in 2007/08 prices and average variable operating cost net of commercial revenues is -£1.40. However, once again this excludes capital costs, which according to the BAA model are likely to vary in response to relatively small changes in passenger volumes and hence should be included in an estimate of marginal cost.

TABLE 16 CC analysis of Stansted's net costs based on CAA assumptions

	<i>Proportion variable %</i>	<i>2008/09 costs £m</i>	<i>2008/09 variable costs £m</i>
Operating costs (2007/08 prices)			
Staff	35	55.5	19.4
Constab	25	7.2	1.8
Rent	0	0.4	0.0
Rates	0	11.4	0.0
Utilities	0	13.2	0.0
maintenance	10	10.2	1.0
Other	0	23.6	0.0
Total*	18	121.5	22.3
Commercial revenue			
other op income	0	4.2	0.0
shops& catering	100	35.2	35.2
other retail	0	17.1	0.0
Car park	50	37.8	18.9
Property	0	7.9	0.0
Utility	0	5.0	0.0
Other	0	8.1	0.0
Total	47	115.3	54.1
Net cost (£m)		6.1	-31.8
Passengers (m)		22.7	22.7
Net cost (£ per pax, 2007/8 prices)		0.27	-1.40
Net cost (£ per pax, 2004 prices)		0.24	-1.26

Sources: CAA analysis of Stansted's revenue and cost structures (Annex 2 to Competitive Constraints faced by Stansted airport, Supporting paper II to CAA's initial price control proposals for Heathrow, Gatwick and Stansted airports, December 2006); BAA initial submission to CC (chapter 19), BAA-STN 115.

*Excludes inter-company costs and depreciation.

144. Table 17 summarizes these different estimates. We noted above that the true competitive price, and therefore marginal cost, must be below the current price level of around £6.34 because there is spare capacity. We also do not consider it reasonable to exclude all capex costs when considering the marginal passenger, especially at an airport that is nearing capacity. This, combined with the relatively good fit of the linear cost function, causes us to favour an estimate in the region of £3 to £5.

TABLE 17 Summary of marginal cost estimates

	<i>Marginal cost £</i>
Linear cost function	3.11
BAA financial model	[3]
Applying CAA opex elasticity	1.52
Average variable cost	0.98

Source:

145. The importance of commercial revenues to an airport means the price in a well-functioning market could be lower than marginal cost by as much as the commercial revenue per passenger. Table 18 shows the weighted average commercial revenue per passenger forecast in the BAA financial model for 2010/11 is £[✂]. We do not think it likely the competitive price would ever be negative. However, relatively high levels of ancillary revenue mean that competitive price could come close to marginal cost whilst still allowing the operator to cover fixed costs.

TABLE 18 **Weighted average commercial revenue per passenger**

	2010/11 £
Other operational income per pax	() ✂ ()
Catering per pax	
Other retail per pax	
Car park per pax	
Property revenue per pax	
Duty free per IDP	
Bureau de change per IDP	
Commercial revenue per dom pax	
Commercial revenue per IDP	
Average commercial revenue per pax	

Source: BAA financial model.

Estimating willingness to pay

146. As noted above, marginal costs are only one of the factors we consider in assessing how we think the competitive price is likely to evolve over the course of Q5: another factor is willingness to pay. Where capacity is fully utilized, willingness to pay of the marginal user becomes the appropriate measure of competitive price. This may become the relevant competitive price for certain peak hours during the course of Q5. We note again our analysis should be seen as a guide and not as precise estimates.

147. One method is to look at Stansted in isolation, and to say that the willingness to pay of the marginal user is equal to profit per passenger on the least profitable route plus current airport charges net of discounts. This is complicated by the fact that airlines

maximize profits over a network of flights, so that if they ceased to operate their least profitable flight then profits on other flights would also be affected, for example because of higher parking charges associated with longer turnaround times. Looking at average profitability should, however, provide an approximate guide to willingness to pay.

148. Average profitability per passenger (excluding commercial revenues) for Ryanair at Stansted in financial year 2007/08 was £[X]. If Ryanair has no viable alternative to serving the London market, an unregulated operator could increase charges by the full amount of profitability per passenger to £[X]. This is confirmed by anecdotal evidence from Ryanair, who told us in a hearing that if charges increased to £[X] they would have no option but to stay and pay. We note this figure is likely to be higher than the profitability of marginal flights and so consider the competitive price when Stansted reaches capacity to be somewhat lower than this.
149. Another method is to say that willingness to pay depends on the value of the airline's outside option. If it were possible to obtain slots freely at Gatwick and Luton, this would involve comparing average profitability at Stansted with those of its nearest competitors, Gatwick and Luton. As these airports are full, however, we have to add the price of obtaining access to the airport by acquiring slots from incumbent airlines. There have been no slots traded at Luton. Data on the four slot trades of which we are aware at Gatwick is given in Table 19, and used to estimate the price per passenger of acquiring a slot at Gatwick. However, the small number of slot trades will introduce uncertainty in our estimate. The average price is between £0.80 and £1.21 depending on the assumption made about slot life. This can be subtracted from profit per passenger at Gatwick, and compared with profit per passenger at Stansted. We also have to account for switching costs, discounted over the slot life.

TABLE 19 Gatwick slot trades

Confidential data on slot transactions

Slot trades (acquirer/disposer)	Date of first season	Payment	Number of slot pairs per day	Value per slot £m Oct 07 prices	Price per pax 10 yr	Price per pax 20 yr
easyJet/Flybe All year	2003	[✂	1.21	0.82
Britannia/BA Summer†	2004					
easyJet/Delta All year	2005					
Air france/Flybe All year	2006					
Unweighted mean						

Source: Airlines.

*10 per cent discount rate.

†Winter and summer seasons each assumed to be half a year.

150. Ryanair average profitability per passenger at Gatwick in 2007/08 was £[✂]. They estimated the capital costs of moving from Stansted to Gatwick would be in the region of £[✂] million, which applied over [✂] million passengers for the duration of slot lives amounts to between £[✂] and £[✂] per passenger. Adding this cost to the price per passenger of acquiring slots gives net profitability figures of between £[✂] and £[✂]. As this is higher than average profitability at Stansted, it suggests that the cost of acquiring a slot at Gatwick must be higher than suggested by the slot trade data. It is therefore unlikely an operator at Stansted would currently be able to acquire sufficient slots at Gatwick to switch their operations in response to a relative price change.

TABLE 20 Confidential data on Ryanair's average profit per passenger at STN and LTN

Financial year	Average profit per passenger	
	STN £	LGW £
2005/06	[✂
2006/07		
2007/08		

Source: Ryanair.

TABLE 21 Confidential data on net profit at LGW after accounting for switching costs (including slot purchase)

Cost of moving Pax (2006/07)	[£] 14,900,000
Annuitized cost (25 yr) Annuitized cost (10 yr) Cost per pax (25 yr slot life) Cost per pax (10 yr slot life) Profit per pax at STN Profit per pax at LGW Net profit at LGW (10 yr slot life) Net profit at LGW (25 yr slot life)	£ () ✂

Source: Ryanair, CC calculations.

Conclusions about current price in relation to competitive price

151. On the basis of the preceding analysis, our current view is that prices are not below the competitive price level at present. We do not currently see evidence of excess demand at Stansted: we are not aware of any slot trades having occurred and the latest scheduling report shows available slots in all hours of the day. All of our estimates of marginal cost are significantly lower than current price levels. This suggests that the existing price cap is not currently distorting investment signals for other airport operators by holding prices below competitive levels.

152. The CAA has suggested to us that it is the relationship between the prospective price cap and the competitive price level that is important for investment incentives. Another relevant question is therefore whether a RAB-based price cap is likely to hold prices below the price that would result from a well-functioning market during the course of Q5. Estimates of the willingness to pay of the marginal user suggest this level could increase to £[£] once capacity is reached but is likely to be somewhat lower than this. However, even the most optimistic forecast for demand will not see Stansted reaching full capacity during Q5 during every hour of the day. Whilst it could conceivably reach capacity for departure slots between 0500 and 0700, the weighted average competitive price over the course of the day will be much lower than £[£] with many hours of the day continuing to be unconstrained. For example, a

competitive price of £[X] for 2 hours of the day and £[X] for the remaining 21 would result in a weighted average price of approximately £[X].⁴³ As the allowable yield applies only to average yield per passenger, there is considerable scope for a regulated operator to increase charges in peak hours by charging below the cap for off-peak usage. We therefore think it unlikely that a RAB-based price cap would hold prices below the competitive level during the Q5 period.

Overall conclusions

153. Drawing on the evidence on demand-side substitutes for Stansted considered by the CC in the context of the ongoing market inquiry, by the DfT and CAA in their decision to continue to designate Stansted and by parties responding to the CAA's review of price control options at Stansted, we find that the only non-BAA airport that could be considered an effective substitute for Stansted by airlines and their passengers is Luton.
154. Our analysis of average actual prices at Stansted and Luton shows a trend decline in Luton's prices throughout the 1990s that could have been due to the entry and aggressive pricing strategy of Stansted but could also have been due to other factors such as falling costs. Overall it is not clear that prices at the two airports move together, although anecdotal evidence from Luton airport suggests that the level of charges at Stansted is taken into account when setting prices at Luton.
155. One factor that is relevant to the strength of potential competitive constraints is the existence of spare capacity. We look at capacity at Luton and conclude that apron constraints in particular will limit the extent to which it can compete with Stansted for new and existing business at least over the Q5 period.

⁴³Based on the assumption that there are 50 ATMs in a constrained hour and 26 in an unconstrained hour and there are 179 passengers per ATM. This is based on data from the ACL Summer 2008 Start of Season report for Stansted.

156. We look at the strength of competitive constraints on Stansted in practice by reviewing the profitability of recent price increases and by considering its ability to increase prices further still. We find very little response of airlines and passengers to the large increases in charges in April 2007, suggesting these increases were profitable. We also find evidence that Stansted is holding charges below the maximum possible under the cap for strategic reasons, which we interpret to mean that in the absence of regulation charges could be significantly higher.
157. We find that marginal costs at Stansted could lie between £0.98 and £5, and are most likely to be between £3 and £5. We note that in a well-functioning market, prices will be driven close to the perfectly competitive benchmark case of short-run marginal costs. We do not consider the competitive price could be above the current level of charges because we do not see any evidence that demand is in excess of industry supply. We conclude the current charge is at least equal to, and probably higher than, the competitive level. We consider this to mean that Stansted could profitably increase charges above the competitive level, if it has not done so already, and therefore has market power.
158. We find it is unlikely that a RAB-based price cap would distort incentives for other airports to invest during Q5. This is because our assessment of traffic forecasts means we think it unlikely Stansted will reach capacity in every hour of the day during Q5, and therefore unlikely the weighted average competitive price will increase much above current levels. As the allowable yield applies only to average yield per passenger, we find there is considerable scope for a regulated operator to increase charges in peak hours by charging below the cap for off-peak usage. We also note the main competitor to Stansted, Luton, is already [redacted], the charges set at Stansted will have no impact on Luton's investment decisions.

Detailed tables for competitor analysis

1. Table A1 summarizes the location of the closest competitor routes for the main airlines at Stansted.
2. For each of the main airlines, these tables show passenger-weighted⁴⁴ results for the location of the closest competitor and the second and third closest competitors.
3. [✂]
4. [✂]
5. It is useful to have a summary measure of the first, second and third closest competitors. The fourth line of the 'total' panel shows a simple sum of the first, second and third closest competitors (as a number rather than a percentage). However, the closest competing airline is likely to be a more important constraint than the second closest which will be more important than the third closest competitor. Thus in the fifth line of the 'total' panel we calculate a score (out of 100) by weighting the location of the closest competitor by 4 and the second closest competitor by 2 (and then dividing by 7 and multiplying by 100 so that the scores for each airport add up to 100).

⁴⁴The number of passengers is the total of arriving and departing passengers in the 12 months to July 2007.

TABLE 1 Analysis of airlines' stated competitors on Stansted routes by per cent of passengers

	No competitor quoted at this level	Location of competitor					
		At Stansted	At other airports	Of which			London City
				Heathrow	Gatwick	Luton	
✂							

Total (based on 19.5 million pax, airport total 23.8 million pax)

Closest competitor	17.2	17.7	65.0	22.1	33.7	9.2	0.0
2nd closest competitor	37.9	6.5	55.7	30.7	21.6	3.3	0.0
3rd closest competitor	55.2	3.3	41.5t	28.4	10.8	0.0	2.3t
Sum for three closest competitors (max 3)	1.10	0.28	1.62	0.81	0.66	0.12	0.02
Weighted sum for three closest competitors (max 7)*	2.00	0.87	4.13	1.78	1.89	0.43	0.02
Score (out of 100)	29	12	59	25	27	6	0

Source: CC calculations based on information provided by airlines.

*Closest competitor weighted by 4; 2nd closest by 2; 3rd closest by 1.

t[✂]

Additional charts on Ryanair yields

FIGURE 1

Change in Ryanair yields compared with 12 months earlier



Source: Ryanair, CC calculations

FIGURE 2

Change in Ryanair yields compared with 12 months earlier



Source: Ryanair, CC calculations