

## Capital expenditure triggers at Heathrow and Gatwick

### Introduction

1. This appendix considers capital expenditure triggers at Heathrow and Gatwick, as recommended by the CC during the Q5 quinquennial reviews, and subsequently implemented by the CAA. It argues that the triggers are different in a number of important ways from the CC's 2007 recommendations, and that the net effect is that the mechanisms seem to be more favourable to BAA than those proposed by the CC.
2. This appendix consists of the following sections:
  - (a) *CC recommendations*: our 2007 recommendations on triggers;
  - (b) *CAA proposals*: outlines how the CAA has given effect to our recommendations;
  - (c) *features of triggers*: makes some observations on some features of triggers, both in general and individually;
  - (d) *overrecovery in the event of cancellation or delay*: outlines how the triggers do not remove all of BAA's overrecovery in the event of the cancellation or delay of a project;
  - (e) *worked example*: takes as an example a generic investment project, and looks at how BAA overrecovers; and
  - (f) *conclusions*.
3. Annex 1 to this appendix lists the triggers at Heathrow and Gatwick for Q5, as determined by the CAA.

### CC recommendations

4. In our September 2007 Q5 report on Heathrow and Gatwick, we recommended triggers for certain large capital expenditure projects at those airports, in order 'to ensure that projects are actually carried out'. We did not make detailed comments on which projects should be triggered, or when the trigger dates should be, because Constructive Engagement was still ongoing. We confined ourselves to setting out the following, high-level principles:
  - (a) Triggers had applied to a small number of projects in Q4. We did not accept that any particular number of triggers could be regarded as intrinsically too many; more important, in our view, was that a substantial proportion of the capital expenditure programme should be subject to triggers, 'maybe in the order of between 75 and 80 per cent'. We accepted, however, that triggers would be difficult to apply to the numerous minor projects that were carried out.
  - (b) The scale of each trigger had been somewhat arbitrary in Q4: we argued that triggers should also have regard to the return allowed on a particular tranche of investment and, therefore, that the value attached to particular triggers should also have regard to the return allowed on a particular tranche of investment (eg the 6.2 per cent return at Heathrow and 6.5 per cent at Gatwick, converted into a

percentage of airport charges). This would, in our view, have ensured that BAA was no better off for not carrying out that investment, although in some cases the detriment to airlines of a project being delayed or not carried out at all might have justified a trigger significantly larger than that.

- (c) However, we noted that there may also have been a risk of perverse incentives from the use of triggers. First, triggers may make BAA reluctant to abandon a project no longer appropriate. However, they may also provide no return within the quinquennium on alternative and possibly preferable projects that may be carried out instead. For this reason we had previously (implicitly) assumed that triggers would only be attached to projects that appeared certain to be needed, as was the case with those identified in the Constructive Engagement reports. Triggers were, however, also likely to be appropriate for projects that were generally supported and included in the CIP, but which remained dependent on factors, such as a government decision, outside BAA's control, eg a decision on rail schemes.
  - (d) We recommended that the CAA should arbitrate if BAA and the airlines failed to reach agreement on the triggers to be applied or on the detailed specification of each trigger; and that it should continue to be involved in the event of any disagreement about whether the agreed triggers were subsequently met.
5. We did not set out any principle for choosing the trigger dates, nor did we recommend any similar triggers in the Stansted Q5 review.

## CAA proposals

6. In November 2007, the CAA published its initial proposals for implementing our recommendations. It implemented some, but not all, of the principles above:
- (a) Its proposals, based on discussions between BAA and the airlines in Constructive Engagement, included 21 triggered projects at Heathrow and 6 at Gatwick, making up 58<sup>1</sup> per cent of Q5 capital expenditure at Heathrow and 44 per cent at Gatwick, far short of the 75 to 80 per cent that we considered might be appropriate.
  - (b) The CAA based the trigger amounts on the rate of return, as we suggested. However, it explicitly rejected our argument that BAA should be no better off if it did not undertake investment over Q5. Instead, it considered that triggers should claw back the rate of return which the project would have achieved past its trigger date (ie when the asset was in operation, or became an asset in operation (AIO)). However, the trigger should not attempt to recover the rate of return which the project would have achieved before its trigger date while it was in the course of construction (ie an asset in the course of construction (AICC)), though the CAA said that it could claw back the latter in the subsequent Q6 review. This distinction between the return earned by the asset when in the course of construction and when in operation is discussed further below.
  - (c) The CAA did not comment specifically on the perverse incentives which triggers might cause. It did not include any rail schemes (except the inter-terminal transit

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<sup>1</sup>There were three projects whose Milestone dates fell outside Q5, but which were to be started during Q5 and which were expected to be triggered. Including these raised the percentage of capital expenditure to which triggers will be applied to 63 per cent.

system at Gatwick) in the projects to be triggered, arguing that BAA had insufficient management control over the projects for a trigger to be appropriate.

- (d) The CAA called on the airlines and BAA to come up with a proposal for change control, so that if unanticipated factors caused projects to change the triggers could be adjusted accordingly.
7. The CAA considered that the trigger dates should be set three months beyond the due date of the project in the CIP, to give BAA some margin for unanticipated factors, and that the lag in the trigger date was compensation for the amount at risk under those triggers.
8. In its decision on Heathrow's and Gatwick's price control conditions in March 2008, the CAA included high-level definitions for triggers for capital expenditure projects. In October 2008, it consulted on the detailed definitions of those triggers at Heathrow, which now numbered 23, and on the change control process which should apply, in the event that those projects were no longer necessary or appropriate or their definitions changed significantly. At Gatwick, it initiated a similar consultation on the ten triggers it identified in December 2008. It published its decision on triggers at Heathrow in February 2009 and has not yet published its decision on triggers at Gatwick. A list of projects to which triggers are attached at both airports, the monthly payments in the event that the trigger dates are missed, and the trigger dates can be found in Annex 1 to this appendix.

## Features of triggers

9. The main features of triggers and their implementation are:
- (a) *Incentive properties.* Triggers can give incentives to BAA to complete projects which it would not otherwise be appropriate to complete, since they 'penalize' it financially for not doing so. This was largely addressed by the Change Control procedure in the CAA's February 2009 decision on triggers at Heathrow, which sets out the ways in which triggers can be modified. It is worth noting that the 'penalty' mentioned is merely the recovery of a return on expenditure which was not incurred in the first place, so it is questionable to refer to it as such.
- (b) *Amounts at stake.* The CAA's decision not to follow the CC's recommendation that triggers leave BAA no better off if it decides not to undertake the investment means that BAA can still gain significantly through promising investment at the quinquennial review, and then refusing to undertake the project. Pier 7 may be an example of BAA doing so, and gaining as a result.
- (c) *Proportion of expenditure covered.* The CAA has chosen to assign triggers to significantly less of the total capital expenditure than the 75 to 80 per cent which we recommended in our Q5 report on Heathrow and Gatwick, though this recommendation was high level.
- (d) *Trigger dates.* In its December 2007 Q5 proposals for Heathrow and Gatwick, the CAA has stated that the approach to setting trigger dates is somewhat 'tauter' than during the Q4 review. However, it could be argued that trigger dates set generally three months later than the completion date given in the CIP provide an incentive for the projects to be completed up to three months late, because BAA can defer expenditure without a penalty, recovering the time value of money in the expenditure while it is not incurred. To put this another way, the airport's costs are lagged by three months, but its revenues are received at the same time, meaning that the money can, at least in principle, be invested and earn a

rate of return. In addition, allowing a project due for completion four years hence the same margin as a project due to be completed in the first year of the quinquennium seems surprising, as does allowing the same margin for a complex project with many external dependencies as for relatively simple, self-contained investment.

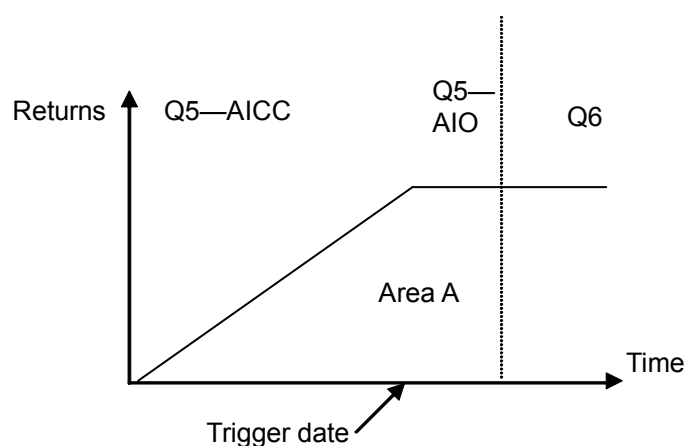
(e) *Delay in agreeing the triggers.* The CAA's decision on the definition of triggers was published almost a year into Q5 at Heathrow and has not yet (March 2009) been published at Gatwick, and there is no change control process in existence at Gatwick. We understand that the practical effect of this is limited, given that the three projects whose trigger dates occur in 2008/09 were not delayed. The CAA argued in its December 2008 document on Gatwick triggers, that, though the delay was clearly sub-optimal, it would not have been able fully to define all the triggers in March 2008, because the Q5 capital expenditure programme had not been agreed in detail, and so far fewer projects would have been covered.

### Overrecovery in the event of cancellation or delay

10. Of these, the point which most requires elaboration is the question of the amount at risk under the triggers, as it allows BAA to overrecover in the event of cancellation of a project or its delay.<sup>2</sup> In what follows, we focus on a standalone project with one trigger, rather than a multi-stage project with multiple triggers such as HET, for which the incentives and effects of triggers might be different. BAA receives a return on expenditure incurred, which increases as the project progresses, and then remains constant once the investment is completed.<sup>3</sup> The returns in each year can be represented by Figure 1.

FIGURE 1

#### Allowed returns on a four-year project over Q5 and beyond



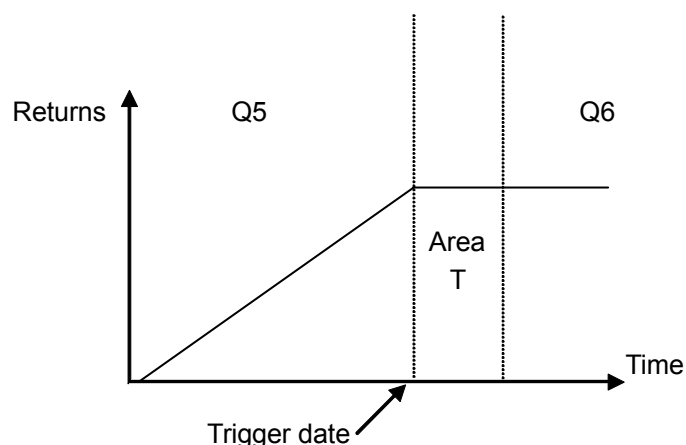
11. The effect of the trigger is to place at risk the proportion of the return marked as Area T in Figure 2.

<sup>2</sup>In what follows, we assume that delays occur at the start of a project, rather than at some phase during its construction. Gains to BAA are reduced the later the delay occurs.

<sup>3</sup>For simplicity, the investment is assumed not to depreciate.

FIGURE 2

**Proportion of returns at risk from a trigger**



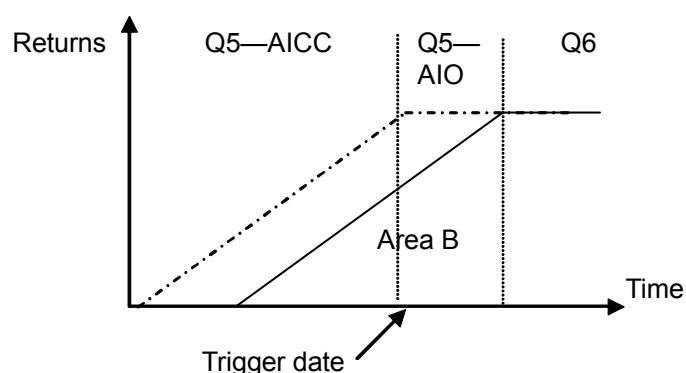
12. There are two ways in which a delay benefits BAA. The first, which will generally be the more significant, may be called the AICC effect, for want of a better term, since it relates to the return incurred by the airport while the asset is being built, and before it enters operation (when it is referred to as an AIO). This is the effect which can be partially offset by the trigger. The second may be termed the return on returns effect. It is not addressed by the trigger. Each is now discussed in turn.

***AICC effect***

13. The amount of money paid to BAA over Q5 will be the area under the graph between the start of the project and the end of Q5, marked as Area A in Figure 1. If the project, and hence the expenditure on which it is based, is delayed by a year, however, the cost to BAA of the expenditure, and therefore the return which 'should' have been set, over Q5 will be Area B in Figure 3., The cumulative return on the undelayed project is shown as a dashed line. The extent of the overrecovery resulting from the delay will consist of two components. The biggest is the difference between the areas under those two lines, namely Area A – Area B. The amount at risk under the trigger, however, is Area T in Figure 2. This amount does not bear any necessary relationship to Area A – Area B.

FIGURE 3

**Allowed returns on a four-year project over Q5 and beyond, delayed by a year**

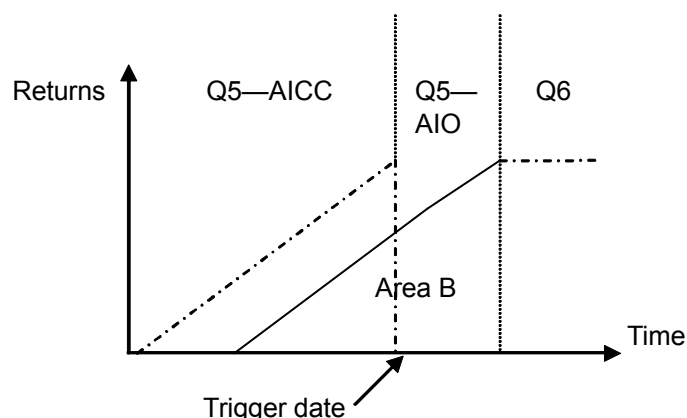


***Return on returns effect***

14. The other, smaller, component of the overrecovery is that BAA, in delaying expenditure, gains the time value of money on its returns during the period of the delay, because the expenditure is incurred after the allowed returns start coming in. In the case of a one-year delay, for instance, BAA recovers a return in year 1, while not incurring any expenditure until year 2. It can invest the return for a year before it needs to pay a cost of capital. The CAA's triggers do not adjust for this effect.
15. The CAA's triggers only remove returns allowed after the trigger date (three months after the project's target date). Figure 4 shows the effect of this, assuming that the project has been delayed from the start. The amount BAA recovers is given by the area enclosed by the dashed lines. It recovers nothing in the final year, because the trigger date has passed, and the trigger has abolished the AICC effect. Its costs are given by the triangular Area B. Area B is likely to be similar to the triangular area under the dashed line.
16. However, even with the trigger, BAA will still gain from delaying its expenditure through the return on returns effect.

FIGURE 4

**Allowed returns on a four-year project over Q5 and beyond, delayed by a year (on the same scale as Figures 1, 2 and 3)**



**Worked example**

17. A stylized example, loosely based on Pier 7 at Gatwick, is now provided. For a £400 million project for which BAA incurs uniform annual expenditure of £100 million in the first four years of Q5, and which has a trigger date of the first month of the fifth year, the rate of return is 6 per cent a year.
18. Under a RAB-based price control, BAA's return would be £72 million over Q5—£48 million on assets in the course of construction, before the trigger date, and £24 million in the final year, after the trigger date (see Table 1).

TABLE 1 Return on expenditure of £100 million a year over first four years of Q5

	AICC				AIO
	2008/09	2009/10	2010/11	2011/12	2012/13
Return on Y1 exp	3	6	6	6	6
Return on Y2 exp		3	6	6	6
Return on Y3 exp			3	6	6
Return on Y4 exp				3	6
Total	3	9	15	21	24

Source: CC analysis.

**AICC effect**

19. Under the CAA's formula for determining trigger amounts,<sup>4</sup> the maximum BAA forgoes in revenue in Q5 is £24 million if it does not undertake the project, or if the project is more than a year behind its trigger date (or, given that the CAA sets the trigger dates as three months behind the estimated completion date in the CiP, more than 15 months late). The trigger, then, in the event of a long delay or cancellation, costs BAA one-third of its return, leaving an overrecovery of two-thirds.

<sup>4</sup>The monthly amount is calculated by the CAA as  $1/12 (A \times B)$ , where A is the total cost of the project, in this case £400 million, and B is the rate of return, in this case 6 per cent. The monthly amount is therefore  $0.06 \times £400 \text{ million} / 12 = £2 \text{ million}$ .

20. The extent to which BAA overrecovers in this way is dependent on the position of the trigger date in the quinquennium. If the trigger date is earlier, BAA's overrecovery will be lower, because its allowance for assets in the course of construction will be smaller, for the same sized project. Table 2 shows the returns for a £400 million project where the expenditure is incurred over the first two years of the quinquennium, rather than over the first four years,<sup>5</sup> as in Table 1. BAA recovers £96 million over the five years, but must forego £24 million a year over the last three years, meaning that in the event of a delay of three years or cancellation, it must forgo £72 million of the £96 million, so that its overrecovery is only one-quarter, not two-thirds as in the previous example, of its total return on this project.

TABLE 2 Return on expenditure of £200 million a year over first two years of Q5

	AICC		AIO			£ million
	2008/09	2009/10	2010/11	2011/12	2012/13	
Return on Y1 exp	6	12	12	12	12	
Return on Y2 exp		6	12	12	12	
Total	6	18	24	24	24	

Source: CC analysis

### Return on returns effect

21. This is not quite the entire extent of the overrecovery, however, since BAA will be able to recover the time value of money on the rate of return on expenditure delayed or not incurred. In delaying a £400 million project by a year, BAA can invest the money which it receives for the rate of return on expenditure for a year. The amount it receives for doing so will be, roughly, its rate of return squared on the money it saves (in this case, £400 million).
22. If the project is delayed by three months, so that the trigger is not activated, BAA will save through incurring expenditure three months later than forecast. Assuming the project is delayed from the start, the amount it will save will be the return on three months' return on the total expenditure of the project, or:

$$(0.06 \times 0.06 \times £400m) / 4 = £1.44m$$

23. This may seem a small amount, but it can be made risk free, and analogous savings can be made on every triggered project in the capital expenditure programme.

### Effect of a six-month delay

24. If the project were delivered six months later, the returns for each year of Q5, calculated using the regulatory formula by a regulator anticipating this delay, should be as in Table 3, for a total of £60 million. The regulator, however, will have allowed the amount in Table 1, namely £72 million, for a difference of £12 million.

<sup>5</sup>Again, for simplicity, the investment is assumed not to depreciate.

TABLE 3 Return on expenditure of £100 million a year over first four years of Q5, delayed by six months

	AICC				AICC/AIO
	2008/09	2009/10	2010/11	2011/12	2012/13
Return on Y1 exp	1.5	3	3	3	3
Return on Y2 exp		3	6	6	6
Return on Y3 exp			3	6	6
Return on Y4 exp				3	6
Return on Y5 exp					1.5
Total	1.5	6	12	18	22.5

Source: CC analysis.

25. In addition, BAA makes a small gain from delaying expenditure, while receiving revenue early; in this case the return on six months' return on the total expenditure of the project, or:

$$(0.06 \times 0.06 \times £400m) / 2 = £2.88m$$

26. The trigger, however, is activated after three months of the delay, and penalizes BAA for the remaining three months of the delay, according to the CAA formula, by:

$$£400m \times 0.06 / 4 = £6m.$$

27. Thus, in delaying the expenditure on the project by six months BAA makes:

$$£6m + £2.88m = £8.88m$$

28. The CAA may deal with these overrecoveries at the Q6 review. However, it is possible that Gatwick will be dedesignated at that time, or a non-binding price cap will be set, rendering triggers ineffective.

## Conclusion

29. The structure of the triggers at Heathrow and Gatwick is part of the Q5 price control condition and hence cannot be changed except by agreement between the CAA and BAA, though we understand that the detailed definitions, which are not in the price control condition, can be changed. Given this, the main relevance of triggers to our market investigation appears to be as further evidence of the CAA's approach to regulation.
30. Given that, the triggers, though clearly preferable to a situation in which there are no triggers at all, seem to:
- (a) cover a considerably lower proportion of capital expenditure than we proposed;
  - (b) retain the incentive to forecast projects at the quinquennial reviews which BAA then fails to carry out. This seems to have been the case with Pier 7 at Gatwick; and
  - (c) provide an incentive, or at least fail to remove a disincentive, on BAA to complete projects up to three months late, because of the three-month delay assumed in the setting of the trigger dates.

## Q5 triggers at Heathrow and Gatwick

### Heathrow

<i>Trigger project</i>	<i>'Milestone month'</i>	<i>'Monthly trigger payment' £m</i>
Completion of T5 Satellite C	May 2011	1.47
T4 Check-in Extension	June 2009	0.10
Completion of South West Bank of Check-in Desks		
T4 Check-in Extension	January 2010	0.10
Completion of North East Bank of Check-in Desks		
T4 New CIP	February 2009	0.10
Completion of Shell and Core for fit-out		
T4 Completion of Baggage Sorter	January 2009	0.10
T4 A380 jetty facilities	May 2009	0.10
Completion of 3rd Jetties on each 2 A380 stands		
Completion of the T3 Integrated Baggage System	March 2012	1.19
T3 Refurbishment	July 2009	0.10
Completion of Pier 5 refurbishment		
T3 Refurbishment	August 2009	0.10
Completion of Pier 7 refurbishment		
T3 Refurbishment	March 2010	0.10
Completion of Check-in & Security Search Refurbishment		
T3 Refurbishment	March 2011	0.16
Completion of Immigration, Landside Departures & Baggage Hall Refurbishment		
HET Phase 1	March 2011	2.78
Demolition of T2 sufficiently complete to enable start of HET construction and HET building substructures complete within main terminal floorplate		
HET Phase 1	February 2012	3.03
Completion of Building weather-tight		
HET Phase 1	November 2012	1.22
Construction sufficiently progressed for operation trials to commence		
T1 Completion of T1 bmi Nose Building Facility	January 2009	0.10
Completion of Mid-field Pier North	January 2010	0.50
Completion of Mid-field Pier Centre	November 2012	0.67
Completion of Passenger Connectivity to the Midfield Pier	November 2012	0.31
Completion of the Outer Pier North	January 2012	0.49
Eastern Maintenance Base Redevelopment	March 2010	0.17
Completion of the diversion of East Church Road		
Post T5: Transfer Baggage System	November 2011	0.79
Completion of the T5-T3 Tunnel & Baggage System		
Post T5: Transfer Baggage System	June 2012	0.41
Completion of the T3-T1 Tunnel & Baggage System		
Completion of the T4-T1 Tunnel Refurbishment	January 2009	0.10

## Gatwick

<i>Trigger project</i>	<i>'Milestone month'</i>	<i>'Monthly trigger payment'</i> <i>£m</i>
North West Zone	June 2010	0.25
North Terminal Check-in	November 2011	0.30
North Terminal Reclaim Extension	November 2011	0.14
Pier 7	January 2012	1.01
South Terminal Baggage	January 2013	0.53
South Terminal Check-in Environment	June 2010	0.10
North Terminal Short Term Parking (MSCP6)	April 2011	0.14
Inter Terminal Transit System	October 2010	0.19
South Terminal Forecourt	June 2009	0.26
Pier 1	June 2010	0.10