Advice to the Civil Aviation Authority

Q6 airport price control review

Review of pension costs for Heathrow Airport

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Author: Aidan Smith

Table of Contents

In this version of the report, some information has been redacted for reasons of commercial confidentiality. Redactions are marked with the ✂ symbol.

1 Executive summary

Introduction (Section 2)

1.1 The CAA commissioned the Government Actuary's Department (GAD) to review and update the CAA's initial Q6 pensions analysis and to provide advice on specific pensions issues. This report covers Heathrow Airport.

1.2 At the CAA's request, this report covers Heathrow's defined benefit (DB) scheme only. This is because the main aspects of the CAA's initial proposals that have been queried by the airports are those which affect DB pension costs only, such as the allowance for future DB benefit accruals and the treatment of the DB scheme's deficit. These aspects do not affect defined contribution (DC) pension costs, which depend more directly on the scheme's fixed contribution rates rather than requiring projections of future benefit costs.

1.3 Appendix B includes important notes on the limitations of our analysis and the use of this report. It is important to read the full report, including the notes in Appendix B, before making any decisions, or taking any other actions, on the basis of this report.

General approach (Section 4)

1.4 In my opinion it is reasonable to base Heathrow's pension allowance on its projected cash contributions to the scheme.

1.5 This report considers separately pension contributions to cover future benefit accruals and any adjustments in respect of surplus or deficit. This is because different factors affect these two elements.

1.6 It is reasonable to base Heathrow's pension allowance on its pension scheme's funding approach rather than on a notional or typical basis, subject to a check that excess (or inefficient) short-term pension costs are not being incurred through inappropriate funding methods or assumptions. In my opinion, the funding method and assumptions used for the latest (September 2010) actuarial funding valuation of the BAA Pension Scheme are not sufficiently out of line with data published by the Pensions Regulator on UK pension schemes' typical funding approaches to warrant any particular concerns in this regard. Therefore, it seems reasonable to use Heathrow's funding valuation approach (including the scheme actuary's calculation of the funding deficit) to set the pensions allowance. There are differences between Heathrow's and Gatwick's funding approaches.

1.7 Heathrow's projected pension costs for Q6 reflect the scheme actuary's interim funding assessment of the BAA scheme as at 30 September 2012. In my opinion, this is an appropriate baseline date for the Q6 review.

Future service pension costs (Section 5)

1.8 I consider it reasonable for the CAA's pensions allowance to assume efficiency savings in the form of benefit reductions.

1.9 The analysis set out in section 5 indicates that assuming future service costs of [✂]% of pay for the pensions allowance, in line with Heathrow's business plan projections, incorporates a reasonable allowance for efficiency savings in the form of benefit reductions.

1.10 A case could be made for assuming greater benefit reductions than I have assumed.

Past service deficit (Section 6)

1.11 It is reasonable for total pension costs (including contributions to meet the scheme's deficit) to be taken into account for the Q6 review.

1.12 The funding deficit used by Heathrow in its pension cost projections (£378m) is similar to that from the scheme actuary's September 2012 interim funding update (£389m) and is therefore a reasonable baseline for the review. It is important to assess whether the funding deficit has been reasonably incurred. My analysis concludes that no adjustments are required to the baseline deficit.

1.13 It is important that only the regulated entity's share of pension costs is met by Heathrow's users. Heathrow's business plan projections assume that Heathrow is responsible for £270m of the scheme's total deficit of £378m. Heathrow has provided some information on the allocation of the pension scheme's deficit across different airports. The information provided by Heathrow has not highlighted any concerns with the allocation used. However, I do not have any data to, and have not been asked to, check the details of the regulatory fraction used.

1.14 I recommend that Heathrow's share of the deficit, and hence its assumed deficit recovery contributions, are adjusted for the expected commutation payments following the sales of Stansted and Edinburgh airports.

1.15 When converting the deficit into annual deficit recovery payments, the CAA should consider explicitly what deficit recovery period should be assumed and then allow for interest on the deficit during that period. The CAA should consider making an adjustment for assumed excess investment returns during the recovery period for consistency with the approach used by the BAA scheme to set cash contributions.

1.16 The CAA should consider signalling its approach on pension costs for future price control reviews.

2 Introduction

Background

2.1 The Civil Aviation Authority (CAA) is the economic regulator of operators of UK airports. When setting price controls for certain airports, the CAA considers the costs which an efficient company incurs to carry out its functions. Such costs include contributions to pension schemes.

2.2 The next quinquennial airport price control review (Q6) is due to apply from April 2014. The CAA published its initial proposals for Q6 in April 2013.

Objectives of this review

2.3 The CAA commissioned the Government Actuary's Department (GAD) to review and update the CAA's initial Q6 pensions analysis and to provide advice on specific pensions issues for Heathrow, Gatwick and Stansted airports. This report covers Heathrow Airport. The terms of reference for the review are listed in Appendix A.

2.4 The results of this review enable the CAA to understand the factors affecting Heathrow's future cash pension contributions and the extent to which Heathrow's pension funding approach is consistent with that of other UK private sector defined benefit pension schemes. Further, it provides information and advice to enable the CAA to decide an appropriate treatment for pension costs in the Q6 review. It is for the CAA, not GAD, to decide the appropriate treatment for the review.

Information used, limitations and use of this report

2.5 Appendix B lists the information which has been provided to us for our analysis. Appendix B also includes important notes on the limitations of our analysis, and the use of this report by the CAA and third parties. It is important to read the notes in Appendix B before making any decisions, or taking any other actions, on the basis of this report.

Consultation

2.6 A meeting between the CAA, GAD and Heathrow Airport took place on 2 August 2013 to discuss Heathrow's projected pension costs and for Heathrow to explain its views on the CAA's initial Q6 pensions proposals.

2.7 The CAA and Heathrow were shown drafts of this report before it was finalised, for comment and to check factual accuracy. The CAA's and Heathrow's comments have been borne in mind in preparing the final version.

3 Background information

Pension scheme benefits and other background information

3.1 Heathrow's employees are offered membership of the defined-benefit (DB) "BAA Pension Scheme" (for employees who joined before June 2008) or the defined-contribution (DC) "BAA Defined Contribution Pension Plan".

3.2 At the CAA's request, this report covers the DB scheme only. This is because the main aspects of the CAA's initial proposals that have been queried by the airports are those which affect DB pension costs only, such as the allowance for future DB benefit accruals and the treatment of the DB scheme's deficit. These aspects do not affect DC pension costs, which depend more directly on the scheme's fixed contribution rates rather than requiring projections of future benefit costs.

3.3 The BAA Pension Scheme's principal benefits are summarised in Appendix C, together with a comparison with the benefits offered by "typical" UK private sector DB schemes which remain open to future accruals.

3.4 Appendix C also summarises the results of the BAA scheme's recent actuarial funding valuations and Heathrow's projected pension scheme contributions from its business plan submitted to the CAA for the Q6 review.

3.5 All amounts in this report are expressed in nominal terms (in other words, they have not been converted into constant prices terms) unless stated otherwise.

Q5 price control

3.6 At the Q5 price control review, based on analysis by GAD, the Competition Commission recommended that the allowance for Heathrow's pension contributions was capped at 20% of pay. This reflected the employer's contribution rate for future service benefits (with no adjustment for any past service surplus or deficit in the scheme) calculated at the scheme's December 2006 interim funding update. However, the contribution rate was adjusted approximately to assume that Open Section members have an accrual rate of 60ths (instead of 54ths) and a normal retirement age of 65 (instead of 60).

3.7 The Commission also recommended a downward adjustment to the Regulatory Asset Base (RAB) to adjust for BAA having not paid pension contributions during Q3 despite their inclusion in the Q3 price control allowance.

3.8 As an interim measure, the CAA's allowance for pensions was set at 25% of pay, in line with BAA's proposed cash contributions to the scheme.

4 General approach

Using cash contributions as the basis for price control allowances

4.1 The cost of a defined level of pension benefits is unknown until the last pension scheme member has ceased receiving his or her benefits. Valuing a pension scheme's liabilities (whether to assess contribution requirements or for any other purpose) requires assumptions about the scheme's future experience. The assumptions used must reflect the purpose of the valuation. Different assumptions produce different valuation results.

4.2 The CAA's initial proposals for Q6 base Heathrow's pension allowance on its projected cash contributions to the scheme. In my opinion, this is reasonable for this purpose because:

> It is consistent with the CAA's and the Competition Commission's approaches for the Q5 review, and with the approaches adopted by other economic regulators; and

> In the short-term, Heathrow's pension "costs" represent its contributions to its pension schemes (while recognising that, in the longer-term, it must ensure its DB scheme's liabilities are met regardless of the immediate level of contributions).

4.3 The CAA should note that:

> This is not the only possible approach; and

> As pension schemes must be funded on a prudent basis (in other words, immediate contribution levels must be higher than a "best estimate" of the future pension costs), all else being equal, a surplus would be expected to emerge in the future. In a price control context, this means that future airport users are expected to benefit (through lower future airport charges) at the expense of current users. However, future airport users are exposed to the risk of adverse future experience increasing pension costs (depending on the approach adopted for price controls).

4.4 Appendix D contains further information on pension scheme funding. (Funding refers to the process of setting a pension scheme's cash contribution rates.)

Separation of past service and future service issues

4.5 This report considers separately:

> Pension contributions to cover future benefit accruals (in actuarial valuations, this is often expressed as a percentage of pensionable salaries and referred to as the Standard Contribution Rate or SCR); and

> Any adjustments in respect of the surplus or deficit in respect of benefits that have already been accrued (compared with the assets available to pay those benefits).

4.6 This is because different factors affect these two elements. As an example, Gatwick's pension scheme was established in late 2009 with the intention that sufficient assets were transferred into the scheme to meet its liabilities. Taking into account the schemes' different histories and circumstances, it would be inappropriate either to:

> Regard Heathrow's pension scheme deficit as inefficient solely on the grounds that Gatwick's pension scheme has no such deficit; or to

> Provide Gatwick with an allowance for deficit recovery contributions based on Heathrow's pension scheme.

Review of funding valuation method and assumptions

4.7 The results of actuarial funding valuations depend significantly on the assumptions used. For scheme funding purposes, the assumptions are set by the trustees but must generally be agreed by the sponsoring employer.

4.8 The assumptions used for a particular pension scheme should reflect that scheme's circumstances. There is no "one-size-fits-all" approach. In particular, for a regulated entity, the assumptions should reasonably reflect a strong sponsor covenant.

4.9 For these reasons, and also for simplicity and consistency with previous economic regulatory decisions, it is reasonable to base Heathrow's pension allowance on its pension scheme's funding approach rather than on a notional or typical basis.

4.10 The CAA would be concerned if Heathrow's negotiations with the pension scheme's trustees on funding were weaker than if it were subject to greater competitive pressures. In other words, it is appropriate to check that excess (or inefficient) short-term pension costs are not being incurred through inappropriate funding methods or assumptions. Therefore, before agreeing to base Heathrow's pensions allowance on the BAA Pension Scheme's future cash contributions, the CAA should assess the reasonableness of its funding approach for this purpose.

4.11 In my opinion, the funding method and assumptions used for the latest (September 2010) actuarial funding valuation of the BAA Pension Scheme are not sufficiently out of line with data published by the Pensions Regulator on UK pension schemes' typical funding approaches to warrant any particular concerns in this regard. Further details of my analysis and the basis for this conclusion are set out in Appendix E. My review is high-level, in view of the purpose of my advice to the CAA. I have not considered every valuation assumption in detail.

4.12 There are differences between the funding approaches and assumptions used by Heathrow and Gatwick, which the CAA should be aware of, as follows:

> The calculation of Heathrow's future service contributions anticipates in advance the future ageing of the scheme's active members following its closure to new entrants. This produces a higher initial contribution rate than if a different method were used (as Gatwick does), but the differences would be expected to even out over time (as Gatwick's rate would be expected to increase in the future but Heathrow's would not). Both methods are commonly used by closed pension schemes. I have assumed an airport's pensions allowance should reflect whichever method is used for funding by the scheme's trustees, noting that the differences should even out over time.

> There are differences in the assumptions used for Heathrow's and Gatwick's latest funding valuations. Overall, the differences would result in lower immediate contribution rates for Gatwick than Heathrow, if all else were equal. However, any differences would be expected to even out over time, as such assumptions affect the employer's contribution rate to the scheme in the short- to medium-term but do not affect the actual long-term costs of the pension scheme. I have assumed that an airport's pensions allowance should reflect its own funding assumptions for the reasons given above.

Choice of valuation date

4.13 Heathrow's projected pension costs for the Q6 period, as submitted to the CAA in its business plan, reflect the scheme actuary's interim funding assessment of the BAA scheme as at 30 September 2012. In my opinion, this is an appropriate baseline date for the Q6 review for the reasons given below.

4.14 Funding positions fluctuate over time due to changes in market conditions and other factors. The BAA scheme's funding position might change significantly during the Q6 period. At a high level, the amount of pension contributions in the short term does not affect the long-term costs of the pension scheme (assuming the sponsoring employer continues to support the scheme and benefits from any surplus).

4.15 Therefore, it would seem a reasonable aim for the CAA to ensure that the choice of baseline valuation date does not affect the balance of pension costs met by shareholders and airport users in the long-term (although it will affect outcomes during any specific price control period). This could be achieved, for example, by adjusting for any differences between reasonably incurred actual pension contributions and the price control allowances at future price controls (noting that pension contributions are set following schemes' actuarial valuations which are on a different cycle to the quinquennial price control reviews).

4.16 If the CAA adopts such an approach going forward, then the choice of baseline valuation date for the price control has relatively little significance for long-term pension costs (although there are timing effects). There are advantages in using the latest full actuarial valuation for this purpose, as it is consistent with the actual setting of future contribution rates and it represents a more robust assessment of the scheme following a process set out in legislation, whereas an interim funding update does not need to reflect in full all changes since the latest full valuation. However in this case the effective date of the latest full actuarial valuation of the BAA scheme (30 September 2010) is 3½ years before the start of the Q6 period, and the results of the next full valuation (as at 30 September 2013) are not expected to be available in time for use in setting the Q6 pensions allowance. Therefore the use of a more recent interim update can also be considered reasonable.

5 Future service pension costs

CAA's initial proposals

5.1 The CAA's initial proposals for Q6 set the allowance for future service defined-benefit pension costs at 17% of pay, in line with the average rate of employer contributions to similarly-sized UK private sector defined-benefit pension schemes from Table 4.2 of the Office for National Statistics' Occupational Pension Schemes Annual Report 2011. A report for the CAA by Hymans Robertson indicated that plausible amendments could be made to the BAA Pension Scheme in respect of future service which would be consistent with such a future service contribution rate.

Heathrow's comments on the CAA's initial proposals

5.2 Heathrow commented that:

> The baseline scheme cost of 40% underlying the CAA's initial proposals was a notional figure and does not reflect Heathrow's actual pension contributions; and

> Heathrow's business plan already includes assumed efficiency savings in the form of a decrease in future service contribution rates from 33% of pay to [✂]% of pay (which is less than the CAA's pensions cap of 25% of pay for the Q5 review).

Proposed approach

5.3 For the reasons given in section 4, I consider it reasonable to take Heathrow's baseline (current benefits) future service pension costs as being 33% of pay, broadly reflecting the scheme actuary's interim funding assessment as at 30 September 2012.

5.4 I consider it reasonable for the CAA's pensions allowance to assume efficiency savings in the form of benefit reductions for the following reasons:

> Heathrow's business plan includes such savings, demonstrating that Heathrow considers such an approach to be reasonable and that it intends to implement some such changes;

> The IDS analysis commissioned by the CAA and Table C.1 in Appendix C illustrate that the BAA Pension Scheme's benefits are more generous than those provided by typical UK private sector defined-benefit pension schemes;

> Heathrow is not aware of any legal barriers preventing any such changes; and

> While there is an agreement in place with Trade Unions restricting changes to the pension scheme, that agreement permits changes from 1 July 2014 if the preceding actuarial valuation shows a deficit in excess of £250m. The funding deficit at the 30 September 2010 actuarial valuation was £275m and interim actuarial reports indicate that the deficit has increased since September 2010.

5.5 The CAA's initial proposals referenced a benchmark future service cost of 17% of pay, from the ONS Occupational Pension Schemes Annual Report 2011. While it is reasonable and appropriate to take into account average or typical rates of contributions to UK private sector DB pension schemes, it is also appropriate to consider the limitations of such data.

5.6 One specific issue is that the ONS data reflects market conditions at an earlier date than September 2012. Contribution rates reported in a 2011 survey might reasonably have been set at actuarial valuations with effective dates between 2007 and 2010. Table C.2 in Appendix C shows the increase in the BAA scheme's future service contribution rate since 2007. A significant part of this increase is due to changes in market conditions, which will have affected other schemes similarly.

5.7 With these points in mind, I have calculated the likely effect on the BAA scheme's future service contribution rate if the scheme's normal retirement age were 65 instead of 60 and the scheme's accrual rate were 60ths instead of 54ths. These hypothetical benefit changes are the same as those considered by the Competition Commission for the Q5 review. They also reflect the two main differences between the BAA scheme's benefits and those of other typical schemes as shown in Table C.1 in Appendix C.

5.8 My calculations suggest that, on this basis, the employer's future service contribution rate would reduce from 33% of pay to around [✂]% of pay. My calculations are approximate, and assume no changes in the basis used to set contribution rates. This analysis indicates that assuming future service costs of [✂]% of pay for the pensions allowance, in line with Heathrow's business plan projections, incorporates an allowance for efficiency savings in the form of benefit reductions in line with those envisaged in 5.7.

5.9 Comparing this analysis with that underlying the Competition Commission's price cap of 20% of pay for the Q5 review:

> My calculations now assume that benefits would be reduced for all members, whereas the previous calculations assumed no changes for Closed Section members. All else being equal, this would give a lower contribution rate now; but

> Changes in market conditions result in a higher contribution rate now, based on market conditions at September 2012, than previously, based on December 2006.

5.10 Comparing this analysis with the CAA's price cap of 25% of pay for the Q5 review:

> The CAA's cap of 25% of pay assumed no reduction in benefits; and

> Changes in market conditions result in a higher contribution rate now, based on market conditions at September 2012, than previously.

5.11 A case could be made for assuming greater benefit reductions than I have assumed above. It is likely that many employers have recently considered, or made, greater reductions in DB scheme benefits than was the case at the Q5 review or are reflected in the 2011 ONS survey data. 2011 ONS survey data will not reflect any changes being considered by, or being made by, employers during or since 2011. However, it is difficult to demonstrate robust, objective evidence of "typical" more recent changes.

5.12 As an example of the extent of changes that could be taken into account, the report for the CAA by Hymans Robertson illustrates that one scenario for a combined set of benefit changes could result in an employer future service contribution rate of 15% of pay (albeit starting from a baseline cost of 40% of pay instead of 33% of pay). The Hymans Robertson report also gives some examples of recent benefit changes that have been made by some specific employers.

Augmentation and enhanced early retirement costs

5.13 Airport users should not necessarily meet additional pension costs incurred by the company granting additional benefits over and above the pension scheme's standard terms (for example, benefit augmentations, or enhanced terms on early retirement or redundancy). Heathrow confirmed that its projected pension costs include no such augmentation or early retirement costs.

6 Past service deficit

CAA's initial proposals

6.1 The CAA indicated that it would consider further any allowance for deficit recovery contributions.

Heathrow's comments on the CAA's initial proposals

6.2 Heathrow stated that its pension costs are a necessary and fundamental element of staff compensation and it seeks to recover its cash contributions to the scheme over Q6. Heathrow noted that its scheme being in deficit is consistent with most other schemes and is primarily a consequence of uncontrollable external factors (in particular, general economic factors). It stated that the recovery of all reasonable and efficiently incurred pension costs is consistent with regulatory practice.

Whether to include deficit recovery contributions in the pensions allowance

6.3 In general, economic regulators can reasonably adopt one of two approaches to defined-benefit pension schemes' funding risk:

- Users meet the expected cost of benefit accruals (ie the future service contribution rate) but the management of the scheme's liabilities is a matter for the company (and therefore shareholders are exposed to the funding risk);

- Or users meet total pension costs including deficit contributions (and therefore also benefit from any surplus) subject to those costs being efficiently incurred.

6.4 Airport users benefited at the Q5 price control from BAA's pension contribution holiday during Q3. This indicates that, in the past, the second of these approaches has been adopted for airport price control reviews. In the absence of any rationale for, or signalling of, a change in approach, I have assumed it is appropriate for total pension costs (including deficit contributions) to be taken into account for the Q6 review.

Level of the deficit

6.5 As discussed in Section 4, I consider it reasonable to use the scheme actuary's interim funding update at 30 September 2012 as the baseline for this price control review. The funding deficit disclosed in that report (£389m) is similar to that used by Heathrow in its pension cost projections (£378m). Therefore, the deficit of £378m in Heathrow's pension cost projections is a reasonable baseline for the review.

6.6 It is important to assess whether the funding deficit has been reasonably incurred. My analysis concludes that no adjustments are required to the baseline deficit because:

> Section 4 reported that there are no material concerns with the method or assumptions used to assess the deficit.

> According to the scheme actuary's reports, none of the movement in the scheme's surplus or deficit since 2001 relates to any benefit augmentations or enhanced early retirement terms. For pragmatic reasons, and in order not to reopen previous price control decisions, I have not reviewed experience before 2001.

> Heathrow's business plan projections do not incorporate any adjustments to the deficit, or seek any recoveries in respect of past experience.

> While a small part of the deficit might, in theory, relate to benefits accrued during Q5 being more valuable than the Competition Commission's price cap, the CAA's price cap did not explicitly assume any reduction in benefits. Further, any such effects would be a relatively small part of the current deficit, and in theory might not have contributed any deficit to the scheme's overall funding position. If Heathrow's contributions for accruing benefits exceeded the relevant price cap during Q5, then its shareholders will already have met the excess cost of providing benefits above the cap. Taking all of these points into account, and for pragmatic reasons, I do not suggest making any adjustment for this.

> I have assumed that the effect of BAA's Q3 contribution holiday were fully taken into account at the Q5 review, and therefore no further action is necessary.

Regulatory fraction

6.7 It is important to ensure that only the regulated entity's share of pension costs is met by Heathrow's users. Heathrow's business plan projections assume that Heathrow is responsible for £270m of the scheme's total deficit of £378m. Heathrow has provided some information on the allocation of the pension scheme's deficit across different airports. The information provided by Heathrow has not highlighted any concerns with the allocation used. However, I do not have any data to, and have not been asked to, check the details of the regulatory fraction used.

Adjustment for commutation payments

6.8 I recommend that Heathrow's share of the scheme deficit, and hence its assumed deficit recovery contributions, are adjusted for the expected sales of Stansted and Edinburgh airports.

6.9 Heathrow expects commutation payments of £34.9m for Stansted Airport and £13.4m for Edinburgh Airport to be made to the BAA Pension Scheme. These payments reflect the fact that the liabilities for those airports' deferred and pensioner members will remain in the BAA Pension Scheme, but with no future funding from those airports.

6.10 These payments will reduce the BAA scheme's deficit by an equivalent amount. There should be no increase in the scheme's liabilities as a result of these payments. The commutation payments will be taken into account at future actuarial valuations of the BAA scheme, reducing Heathrow's future contribution requirements (all else being equal).

6.11 Further, active members employed at Stansted and Edinburgh have the option to transfer their pension rights from the BAA scheme to their new pension scheme. The assets transferred from the BAA scheme to the new schemes in respect of such transfers are expected to be less than the value of the equivalent liabilities assessed using the BAA scheme's funding basis. This would also be expected to reduce the BAA scheme's deficit.

6.12 An analysis of the expected effects of these sales must also take into account the expected increase in Heathrow's percentage share of the BAA scheme's total deficit.

6.13 Heathrow has not provided a complete analysis of these effects. Therefore, I have calculated approximately the likely effects of these factors on Heathrow's share of the BAA scheme's deficit. In the absence of sufficient data on all of the relevant transactions I have assumed that:

- The ratio of the commutation payments to the value of the relevant members' liabilities assessed using the BAA scheme's funding basis is the same as for Gatwick;
- Where active members transfer their pension rights to their new schemes, the ratio of the assets transferred to the value of the corresponding liabilities assessed using the BAA scheme's funding basis equals the BAA scheme's funding level;
- Each airport's percentage share of the BAA scheme's total deficit increases proportionately to offset the withdrawal of Stansted and Edinburgh.

6.14 I recognise that these assumptions may not be exactly borne out in practice and that different assumptions would produce different results. However, I consider this approach to be appropriate for a pragmatic calculation in the absence of such analysis from Heathrow.

6.15 On this basis, for the purposes of the price control, Heathrow's share of the BAA scheme's funding deficit at September 2012 (£270m) should be reduced by around £16m to reflect the likely effects of the sales of Stansted and Edinburgh.

Deficit recovery period

6.16 Heathrow's business plan projections convert the scheme's funding deficit to annual deficit recovery payments by dividing by 10. This is equivalent to assuming either:

- a 10 year recovery period, with no allowance for interest; or
- a 13-14 year recovery period, with interest at around 5% pa.

6.17 When converting the deficit into annual deficit recovery payments, I recommend that, for transparency, the CAA considers explicitly what deficit recovery period should be assumed and allows for interest on the deficit during that period.

6.18 Regarding the deficit recovery period, relevant factors include:

- Other economic regulators have typically used periods of between 10 and 15 years.
- The Pensions Regulator's statement in December 2009[1] confirmed that the period used by economic regulators for price controls might differ to that agreed between the scheme's trustees and sponsor for funding purposes.
- The interests of airport users might be served by a longer recovery period to the extent that it smoothes out some of the volatility in funding outcomes.
- A materially longer recovery period than that used for funding would require the additional contributions to be met by shareholders in the short-term.

6.19 The 2010 actuarial valuation of the BAA scheme assumed a higher discount rate when setting deficit recovery contributions than was assumed for valuing the liabilities. In effect, this means that some of the pension scheme's deficit was assumed to be met by higher than expected investment returns during the recovery period, rather than cash contributions. This reduced the employer's cash contribution requirements. The CAA should consider making such an adjustment when setting the price control allowance, for consistency. Otherwise, the pensions allowance could exceed Heathrow's expected deficit recovery contributions.

[1] http://www.thepensionsregulator.gov.uk/docs/deficits-statement-dec-2009.pdf

Future price control reviews

6.20 While not necessary for the Q6 review, the CAA should consider signalling its approach on pension costs for future price control reviews, to ensure that stakeholders are aware of the implications of decisions made during the Q6 period.

6.21 Section 4 commented on the merits of adjusting for differences between reasonably incurred actual pension contributions and the price control allowances at future price control reviews. This would be to ensure that the choice of baseline valuation date for a price control has limited long-term effects on the balance of pension costs met by users and shareholders, and also to ensure consistency of approach between contributions paid just before and just after the relevant cut-off date. The adjustment at the Q5 review for the Q3 pensions holiday is an example of such an approach.

6.22 The CAA could consider options for increasing incentives for Heathrow to manage its pension costs efficiently, such as only taking into account a certain percentage of the pension scheme's deficit at future price control reviews, or signalling that the funding risk in respect of benefit accruals after a certain cut-off date is entirely a matter for the company and its shareholders. Such approaches have been considered or adopted by other economic regulators.

Aidan Smith

Aidan Smith
Fellow of the Institute and Faculty of Actuaries
Government Actuary's Department
24 September 2013

Appendix A – Terms of reference

The objectives of this study are firstly to review and update the CAA's existing airport pension analysis and secondly to provide advice on specific pension issues related to the Q6 price control at Heathrow, Gatwick and Stansted.

The study must undertake several tasks as follows:

> The selection of an appropriate range of companies and organisations for comparison against each airport, taking account of size, industry, ownership and other relevant factors. The selection should take account of the view of stakeholders including the airports and airlines.

> An assessment of the relative cost of each airport's pension scheme relative to comparative benchmarks in terms of employer contribution rates. Separate assessments will be made for Defined Benefit (DB) and Defined Contribution (DC) schemes. This assessment must analyse both historic and forecast pension costs.

> An assessment of the sensitivity of the benchmark analysis to changes in macro-economic factors and demographic assumptions such as life expectancy, interest rates, stock indices, gilt yields and other relevant factors, and an assessment of such changes on the conclusions of the previous benchmark studies.

> An assessment of the portion of any pension deficit attributable to contribution rates above the CAA's pension cost allowance for the Q5 period (equivalent to 25% of salary).

> An assessment of the portion of any pension deficit attributable to contribution rates above the Competition Commission's recommended pension cost allowance for the Q5 period (equivalent to 20% of salary).

> An assessment of the pension costs incurred or avoided by Heathrow and Gatwick that are directly attributable to any commutation payments made following the sale of Gatwick and/or Stansted and /or Edinburgh airports and whether such commutation payments adequately provided for the liabilities incurred or avoided by each airport.

> Provide guidance over the regulatory treatment of deficit and commutation payments in the Q6 settlement taking account of regulatory principles and precedent.

Following initial discussions with the CAA, it was agreed that GAD's review would cover defined-benefit pension costs only. Further, it was agreed that the approach for considering future service pension costs would be that followed in section 5 of this report.

Appendix B – Information used, limitations and use of this report

Information on the BAA Pension Scheme

- Members' booklets;
- The scheme actuary's actuarial valuation reports as at 30 September 2004, 2007 and 2010; and
- The scheme actuary's actuarial reports (funding updates) as at 30 September 2008, 2009, 2011 and 2012.

Information on the CAA's price control reviews

- The CAA's initial Q6 proposals dated April 2013;
- IDS report: "Benchmarking employment costs, a research report for the CAA" dated February 2013;
- Hymans Robertson note: "Cost of future defined benefits for employees of Heathrow – scenario testing" dated January 2013;
- Heathrow's response to the CAA's initial proposals dated 25 June 2013;
- Heathrow's submissions to the CAA referenced BAA/Q6/32(1), BAA/Q6/32(2) and BAA/Q6/40;
- Heathrow's presentation to the CAA "Q6 pensions update" dated March 2013;
- Heathrow's paper "Summary of Heathrow's pension costs" provided on 9 August 2013 in response to an information request by GAD.

Publicly available reference information

- "Heathrow and Gatwick Airports CAA price control proposals", CAA, November 2007.
- "Occupational Pension Scheme Survey, 2011 Annual Report", Office for National Statistics.
- "Regulatory Code of Practice 03: Funding defined benefits", the Pensions Regulator;
- "Scheme funding", the Pensions Regulator, June 2013.

Use of data

1. My analysis is based solely on the information provided to GAD for the purposes of this review and relies on the completeness and accuracy of the information provided. I have not independently calculated or checked the details of any funding calculations. GAD accepts no responsibility for any inaccuracies or omissions due to any errors or omissions in the information provided for this review.

Limitations of GAD's analysis

2. This review considers pension costs. It is recognised that pension arrangements are only one part of overall remuneration packages. The CAA's analysis takes into account other elements of remuneration also.

3. This report compares Heathrow's pension costs and benefits with publicly available information on other UK private sector defined benefit pension schemes. Such comparisons do not take into account factors which affect particular industries, sponsoring employers or pension schemes in isolation, and are provided as a guide only.

4. Pension schemes' benefits, investment strategies and funding approaches should reflect each scheme's particular circumstances. It is beyond the scope of this report to consider all such factors. It is recognised that a "one-size fits all" approach is not appropriate. This review must not be interpreted as advising that a particular approach is necessarily inappropriate.

5. The discussion of appropriate regulatory approaches considers approaches that are reasonable from an actuarial perspective. For the avoidance of doubt, this does not mean that no other approaches would be practical and reasonable. On the contrary, in many cases such decisions are areas where the CAA has to make a pragmatic decision between a choice of reasonable alternatives. I have set out the rationale for my conclusions in this report. It is for the CAA to consider whether it agrees with my conclusions in the overall context of the Q6 review, and to decide on the appropriate regulatory treatment of pensions costs. In doing so, the CAA should consider consistency with other aspects of the price control, which GAD has not considered.

Distribution and publication of this report

6. This report is addressed to the CAA. I am aware that the CAA may make this report available to other parties, including Heathrow. I am aware that the CAA may choose to publish this report in its entirety, or to quote this report in part, subject to confidentiality requirements. GAD reserves the right to review and comment on any document in which the CAA quotes or refers to this report in part.

7. Advice provided by GAD to the CAA is intended solely for the use of the CAA. GAD does not accept any responsibility to third parties who may read this report or extracts from it.

Appendix C – BAA Pension Scheme and Q6 review – background information

BAA Pension Scheme - benefits

> The principal benefits provided by the BAA Pension Scheme are summarised in Table C.1. This table also shows the benefits offered by "typical" UK private sector DB schemes from ONS survey data.[2]

Table C.1: BAA Pension Scheme benefits

	BAA Pension Scheme	"Typical" UK scheme
Age at which unreduced benefits are paid (NRA)	60 [1]	65
Earnings definition	LEL offset [2]	No offset
Accrual rate	54ths	60ths
Dependants' pension after death of member	67%	50%
Benefits on ill-health	Enhanced pension	Enhanced pension
Lump sum on retirement	By commutation	By commutation
Member contributions (% of pay)	5% [3]	5%
Pension increases (in payment)	RPI with cap [4]	RPI with cap

Source: "Typical" UK scheme: Occupational Pension Schemes Annual Report 2011 (ONS)

[1] 55 for Fire Service members.

[2] For post-1991 joiners, earnings below the Lower Earnings Limit (LEL, currently £109 a week) do not count for contributions and benefits. There is no LEL offset for pre-1991 joiners.

[3] 6% of pay for pre-1991 joiners. Fire Service members pay an extra 1% of pay, Special Fire Service members pay an extra 1½% of pay.

[4] No cap applies for pre-1991 joiners.

> The comparison with a "typical" UK private sector DB scheme is approximate only. It considers pension benefits in isolation, ignoring industry- or company-specific factors and other elements of the remuneration package. Further, it may not fully reflect recent changes in private sector DB schemes' benefits. 2011 ONS survey data will not reflect any changes being considered by, or being made by, employers during or since 2011. In practice, there is a wide range of different pension scheme designs, so any attempt to list "typical" benefits is a simplification.

[2] "Occupational Pension Schemes Annual Report 2011", Office for National Statistics (ONS), Tables 3.19, 4.2, 5.1, 5.8, 5.14 and Figure 5.13.

BAA Pension Scheme – actuarial funding valuation reports

> The results of actuarial funding valuations of the scheme are shown in Table C.2:

Table C.2: BAA Pension Scheme – actuarial funding valuations

30 September	**2004**	**2007**	2008	2009	**2010**	2011	2012
Past service							
Assets (£m)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Liabilities (£m)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Surplus (£m)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Funding level [1]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Future service [2]							
Cost of benefits	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
+ admin expenses	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
- member conts	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Employer rate	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: scheme actuary's valuation reports provided by Heathrow.

[1] The funding level is the ratio of the value of the assets to the value of the accrued liabilities.

[2] The rates shown are the Standard Contribution Rate, ie the contributions required in respect of future benefit accruals, with no adjustment for past service surplus or deficit, as a % of pay.

[3] Estimated / assumed figures

[4] Years in bold represent full actuarial funding valuations. Other years are interim updates.

> Taking into account past service surplus or deficit, the agreed employer contributions to the scheme (for all participating employers/airports, not just Heathrow) have been:

  > At the 2004 valuation: 17% of pay (with higher rates for fire service members);

  > Following the acquisition by Ferrovial in 2006, employer contributions increased to £70m pa (equivalent to around 20% of pay) until December 2008;

  > At the 2007 valuation: £80m pa (equivalent to around 22% of pay) from January 2009 to December 2011;

  > Employer contributions paid between 2007 and 2010 valuation: £74.0m in 2007/08, £93.9m in 2008/09 and £192.1m in 2009/10 (including £104.7m commutation payment on the sale of Gatwick Airport in December 2009);

  > At the 2010 valuation: £73m pa (equivalent to 30.7% of pay) from January 2012 for future accruals (subject to any payroll reductions from the sale of airports) and £24m pa (equivalent to around 10% of pay) from January 2012 to December 2020 to clear the past service funding deficit.

BAA Pension Scheme – projected pension contributions for Q6

- Heathrow submitted the following projected defined-benefit scheme pension contributions for Q6 to the CAA in its business plan:
  - 2014/15: total contributions of £71m, based on the current contribution schedule. From above, this represents:
    - 30.7% of pay for future service contributions; plus
    - £17m pa deficit recovery contributions (Heathrow's share of the scheme's overall £24m pa deficit recovery contributions).
  - 2015/16 onwards:
    - future service contributions of [✂]% of pay; calculated as:
      - the employer's share of the SCR at 30 September 2012 (from the actuary's interim funding update) less [✂]% of pay in respect of assumed efficiencies through reductions to the scheme's benefits.
    - £27m pa deficit recovery contributions, calculated by:
      - spreading Heathrow's share (£270m) of the scheme's total estimated deficit at October 2012 (£378m – which is similar to, but not equal to, the deficit of £389m given in the actuary's September 2012 interim funding update) over 10 years (with no allowance for interest – so by simply dividing by 10).

Note on pay definitions: different sources refer to slightly different definitions of pay. Where possible, for consistency with the approach adopted by the scheme actuary for valuation reports, I have used contribution rates given as a percentage of basic salary plus shift pay. When the CAA is analysing and calculating projected pension costs, it is important to check for consistency between the calculation of the appropriate contribution rate and the definition of pay to which the rate is then applied.

Appendix D – Principles of scheme funding and contributions

1. Most UK private sector defined benefit pension schemes are subject to the scheme funding requirements of Part 3 of the Pensions Act 2004.[3] Pension schemes must have a full actuarial valuation carried out at least every three years. The purposes of such an actuarial valuation are:

   > To check whether the pension scheme's assets are sufficient to cover its accrued liabilities (referred to as its *Technical Provisions* in legislation); and

   > To determine the contribution rate payable by the employer going forward.[4]

2. Employers' contribution rates usually comprise two elements:

   > The employer's share of the *Standard Contribution Rate (SCR)*: this is the contribution rate required to meet the expected cost of pension benefits accruing to active members in respect of service in the relevant period (often the next three years), after deducting the members' contribution rate. The higher the members' contribution rate, the lower the employer's share of the SCR.

   > Adjustments for past service surplus or deficit: where an actuarial valuation shows that the scheme's assets are less than required to cover the expected cost of members' benefits which have accrued up to the valuation date, additional *deficiency contributions* are required from the employer to make up the shortfall. Conversely, where the scheme's assets are more than sufficient, the employer's contributions may be reduced, depending on the scheme's rules.

3. The Standard Contribution Rate (SCR) therefore depends on the following three main factors:

   > The level of benefits being provided: the more generous the benefits, the higher the SCR. Also, the lower the members' contribution rate (as specified in the scheme rules), the higher the employer's share of the SCR.

   > The actuarial assumptions used: the more optimistic the assumptions, the lower the expected cost now of providing the defined benefits.[5]

   > The membership profile of the pension scheme: the expected cost of providing a pension depends on age. Differences in age profiles will result in different SCRs.

[3] For further information, please refer to the Pensions Regulator's regulatory code of practice 03, "Funding defined benefits".
[4] The pension scheme's rules usually determine the rate of members' contributions. In a defined benefit scheme, the employer's contributions are usually variable, and depend on the scheme's experience. In other words, given a fixed rate of member contributions, the employer must ensure the scheme has sufficient assets to pay the specified benefits.
[5] Note that, other things being equal, the more optimistic the assumptions used to calculate the SCR, the greater the risk of actual future experience being worse than the assumptions used and hence of a deficit emerging in the pension scheme in the future.

4. The amount of any deficiency contributions depends on the following factors:

   > The scheme's funding position: this depends on the scheme's actual past experience, and also on the assumptions used for the valuation with regard to the scheme's future experience. Past experience affects both the scheme's liabilities (its obligations to pay members' pensions) and the scheme's assets (the fund which has built up from past contributions and the actual investment performance achieved to date).

   > The *recovery period*: in other words, the period over which any shortfall must be met by the employer through additional contributions. For any given deficit, the annual deficiency contribution will be lower the longer the period over which the deficit is to be repaid.

5. Some key points on the scheme funding process are[6]:

   > The assumptions to be adopted for funding purposes are not prescribed in legislation or guidance.

   > Assumptions must be set by the pension scheme trustees, after taking actuarial advice, and they generally must be agreed by the sponsoring employer. Assumptions must reflect the scheme's and the sponsoring employer's specific circumstances, in particular the trustees' view of the sponsoring employer's covenant.

   > When calculating past service liabilities, assumptions must be prudent. The degree of prudence is not defined, and will depend on the scheme's circumstances.

   > The recovery period must also be agreed with the sponsoring employer. The trustees should aim to eliminate any funding shortfall "as quickly as the employer can reasonably afford".[7]

6. A number of assumptions affect the results of an ongoing funding valuation. These include:

   > Financial assumptions: including the discount rate (or equivalently, the assumed rate of return on the scheme's assets), pay increases, price inflation and pension increases.

   > Demographic assumptions: including assumed longevity (allowing for expected future longevity improvements), assumed rates of withdrawal from active service (and whether this is through voluntary withdrawal, ill-health, death or retirement), and the proportion of members in respect of whom dependants' benefits will be paid.

[6] This list is not exhaustive.
[7] Code of practice 03, "Funding defined benefits", the Pensions Regulator (tPR), paragraph 101.

7. Actuarial valuations may be carried out for other purposes, for example to determine pension costs and liabilities for the sponsoring employer's financial statements under FRS17 or IAS19, or to assess the extent to which the pension scheme's assets would be sufficient to buy out the accrued liabilities with an insurer if the scheme were to wind up (referred to as a solvency valuation). Different types of actuarial valuations use different methods and assumptions, as appropriate for the purposes of the valuation.

Ultimate pension costs versus contributions

8. A defined benefit pension scheme's ultimate *cost* depends on three factors:

   > The scheme's benefits (including to what extent members pay for their own benefits);

   > The scheme's investment returns; and

   > Members' experience (for example employees' pay rises, and pensioners' longevity).

9. However, an employer's *contributions* to a pension scheme also depend on the method and assumptions used to calculate the contribution rates (in other words, the assumptions made regarding future investment returns and future experience).

10. The use of more prudent assumptions causes a higher initial contribution rate, but would be more likely to result in a future valuation surplus and hence lower future contribution rates (assuming that surpluses are used to reduce contribution rates rather than to improve members' benefits). Therefore, differences in contribution rates which are caused by different methods and assumptions might, in broad terms, be expected to even themselves out over time (assuming the scheme is ongoing), but raise issues of equity between customers at different times if they are reflected in price limits.

Appendix E – Review of 2010 valuation assumptions

Table E.1: Key assumptions used for the 2010 funding valuation of the BAA scheme

Assumption	Significance	BAA assumption	tPR data [1]	Comments
Discount rate	The rate used to discount future cashflows. Results are very sensitive to this assumption. A higher discount rate means lower contributions.	Pre-retirement: gilt yield + [✂] % pa Post-retirement: gilt yield + [✂] pa	Pre-retirement: gilt yield + 1¾% Post-retirement: gilt yield + ½% pa	Broadly similar to tPR data (lower pre-retirement rate, higher post-retirement rate). The strong covenant of a regulated company might support a higher rate than for other schemes, but many other factors affect the discount rate. No significant concerns.
Long-term salary growth	Higher assumed salary growth increases the expected level of, and cost of, employees' benefits	RPI+[✂]%pa + promotion increases for some members	(Not available)	Should reflect scheme-specific circumstances. Some schemes have used a lower rate for recent valuations, but not significantly out of line with general practice.
Long-term rate of decrease in mortality rates	A higher rate implies pensions will be paid for longer, increasing costs.	[✂]% pa	1.5% pa is typical	Description of the BAA basis is unclear as to whether it is a minimum rate of improvement or a long-term rate, but the amount is consistent with tPR data.
Others				A number of other assumptions affect the valuation results. Reviewed briefly, no significant concerns to raise.
Recovery plan				
Recovery period	The period over which the deficit is to be repaid	[✂] years	7 years	One quarter of schemes in the tPR data have recovery periods of 10 years or longer. See section 6 for further comments.
Discount rate	Different to the rate used to value the liabilities?	Yes, [✂]% pa higher	(Not available)	Effectively, the BAA scheme valuation assumes some of the deficit will be met by investment returns exceeding the prudent rate used for the valuation, thus reducing the employer's deficit contributions.

[1] This column shows typical assumptions for UK private sector defined-benefit schemes as shown in "Scheme Funding" published by the Pensions Regulator in June 2013. Values are for "Tranche 6" schemes, which covers scheme valuation dates between 22 Sep 2010 and 21 Sep 2011.