

# **Airports Review Policy**

## **A Response from British Air Transport Association (BATA)**

BATA welcomes the opportunity to respond to CAA's consultation document "Airports Regulation: Price Control – Consultation on Policy Issues". BATA represents UK-registered airlines, in the scheduled, charter and cargo sectors. Our members produce more than 80% of UK airline output.

### **Background**

The airline industry is intensely competitive and airlines are under constant pressure to reduce costs and improve efficiency. It is vital that the price review process ensures that the designated airports are brought under similar pressure to be cost efficient.

The last review was an arduous process which produced an unsatisfactory result with a generous regime for BAA. This is evidenced by BAA's substantial profits, their capacity to secure debt with their regulated London airports for the recent substantial investment in Budapest airport and the interest shown by foreign investors in a possible take-over bid.

The CAA has initiated a number of process changes for the current review, notably "Constructive Engagement" and an indication that they are not inclined to re-open the debate on some issues that were exhaustively examined at the last review such as the single till and stand alone regulation.

### **Constructive Engagement**

Those involved with Constructive Engagement at Heathrow and Gatwick are broadly satisfied with progress in most workstreams so far. The process will not finish until June 2006, but it seems that there is a good chance that there will be substantive agreement on passenger volumes, aircraft movements, service quality and the capital investment programmes.

No such agreement seems likely at Stansted, reflecting perhaps the very different nature of the passenger market there. BAA and the airlines hold significantly different views on future passenger volumes, the price sensitivity of the market and the development of a second runway.

We have four areas of concern with Constructive Engagement at Heathrow and Gatwick. Firstly, BAA has not been prepared to reveal enough information on operating expenditure for the airlines to develop an informed view about BAA's future operating cost efficiency. The CAA must ensure that such information is forthcoming during its review.

Secondly, the capital investment programmes may have to be revised when the CAA's initial proposals are published in September 2006. It is proving difficult for airlines to tell during Constructive Engagement what effect the capital investment programmes will have on the price caps. The ready reckoner provided by BAA does not provide a robust mechanism for establishing the total impact of investments on the price cap. If the price caps are too high, the airlines may wish to revisit the output of constructive engagement and possibly cut back investment in exchange for lower caps.

Thirdly, at Heathrow the implications of the possible projects for Mixed Mode operations and a Runway 3 are not known and will not be known until the Constructive Engagement process is finished. It is possible that expenditure on one or more of these projects may be desirable during Q5 which may result in re-prioritising of the capital investment programme.

Fourthly, non-regulated charges make up a substantial amount of the revenues to BAA from airlines. The CAA set an expectation that the airports and airlines would work towards agreeing forecast of non-regulated revenues from airlines in Q5. BAA has been resistant to agreeing these forecasts so far and this has limited the capacity of this workstream to meet the CAA's objectives.

### **Separate Regulation of Airports**

We strongly support the decision at the last review to apply price controls at each airport on a stand alone basis. We are not aware of any new arguments or evidence that would warrant reconsidering the decision.

### **Price Profiling**

We are concerned that the CAA is considering price profiling and revenue advancement. This, in effect, is asking current airlines to pay more than is necessary to remunerate the delivery and funding of investments in a regulatory period. This is against all normal commercial practices. We are opposed in principle to such an approach.

We are also opposed to the suggestion that price controls at Stansted should be set "in a way that allows BAA some scope to test the sensitivity of demand for increased capacity to changes in airport charges...". The CAA appears to be encouraging monopolistic behaviour by BAA.

### **The Single Till**

We are pleased that the CAA does not intend to re-open the debate on the "single till" as the basis on which airport charges are determined.

### **Surface Access Costs**

Contributions to improvements in surface access are nearly always the result of conditions laid down by planning authorities. The authorities use their powers to maximise the contribution by airports in exchange for granting planning permission. The contribution is rarely the result of a rational evaluation of the relative costs and benefits

to airlines and their passengers. In our view therefore, surface access costs should not be part of the regulatory asset base (RAB) unless explicitly agreed to by the airlines.

### **Regulatory Incentives: Volume Risk Sharing**

We are concerned that the CAA is considering some form of volume risk sharing, under which airlines would bear some of the volume risk at airports. Airlines are already exposed to volume risk and, unlike airports, are also exposed to revenue yield risk. In practice, the normal response by airlines to downturns in demand is to reduce fares to maintain passenger volumes. Since the price cap is in terms of an average yield per passenger, airports are exposed to less risk overall than airlines. We are therefore opposed to this idea and suggest that CAA do not consider it any further.

### **CAPEX Triggers and Service Quality Rebates**

In our view these measures have been successful in incentivising airport operators to deliver good performance in areas that matter most to airlines. We would like to see the scope of such measures extended.

### **Cost of Capital**

We have commissioned a review of chapter 9, “The cost of capital and regulatory finance”, and the consultant’s report is appended to this document. Based on this report, the main points we make are:

- The CAA’s concern about “asymmetric risk” in estimating the cost of capital must be analysed carefully on the basis of properly presented evidence. If the CAA chooses to adjust the allowed cost of capital on the basis of this concern, it should do so in a transparent and properly quantified fashion.
- We endorse the use of the Capital Asset Pricing Model (CAPM) in assessing the cost of capital. Consistent with the use of CAPM, whenever the CAA argues that the cost of capital needs to reflect a certain risk, it should provide explicit evidence that the risk in question is indeed a non-diversifiable one (i.e., the only kind of risk that affects the cost of capital, according to the CAPM).
- The CAA should avoid the technical error in deriving the real Weighted Average Cost of Capital, which tends to lead to over-estimation of the cost of capital.
- In keeping with our support for separate regulation, BATA would like to have separate assessment of the cost of capital, gearing and taxation for each airport. If there is a common cost of capital, and one airport has a higher risk profile than the others, then it will in effect receive a subsidy from the other airports. However, the consultant’s report raises a number of practical difficulties and complexities in assessing the cost of capital separately. Nevertheless, we would urge the CAA to adopt this approach if it is at all feasible.
- We oppose any move toward a split or front-loaded cost of capital in this review.
- We endorse the use of actual or effective tax rates.
- We endorse the approach on financeability laid out by the CAA.

March 2006

## APPENDIX: Comments on CAA December 2005 cost of capital proposals

### General Comments

#### The CAA's concern about "asymmetric risk" in estimating the cost of capital

The CAA states (9.12) that it is "mindful that the consequences for airport users over time of under- or over-estimating the cost of capital might be asymmetric, with the detrimental long-term impact of under-investment (resulting from a rate of return that is too low) potentially outweighing the short-term impact on prices through a rate of return that is too high". This argument is frequently heard from the owners of regulated infrastructure.<sup>1</sup> While it is not without merit, it is important that:

- The argument itself should be examined carefully, qualitatively and quantitatively
- The regulator should be clear and explicit about the nature and extent of any adjustments it makes to address any such perceived asymmetry

*Is there an asymmetry, and how large could it be?*

On the first of these points, the CAA statement quoted above contains a hidden assumption that should be drawn out and examined. The CAA claims that under-estimating the rate of return has a longer impact than over-estimating it. However, it seems more logical to expect case that under-estimating the rate of return at one review leads to a five-year delay in investment, while over-estimating it leads to five years of excessively high tariffs. If the next review estimates the rate of return correctly, then one might expect the investment then to take place. It is therefore not at all clear that under-estimating the rate of return has a *longer-term* effect than over-estimating it.<sup>2</sup>

The CAA would probably be on stronger ground in arguing that over the same timeframe, the costs to users of under-investment are significantly greater than the costs of excessively high charges. However, to the extent that this is a material consideration in the CAA's price determination, the onus must be with the CAA to lay out the nature of these costs and as far as possible to quantify them. For example, there is a range of

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<sup>1</sup> As a point of clarification, note that it concerns risk to infrastructure users not to the infrastructure owner, and is therefore fundamentally different from the usual arguments about risk and return in setting the cost of capital, which concern the appropriate level of compensation to the infrastructure owner for the risks that *it* bears.

<sup>2</sup> One might argue that markets will be scared off in the long-run by even one decision that underestimated the rate of return. If that were so then this would be a real problem for the UK regulatory framework. However, experience to date suggests that capital markets have considerable faith in the overall framework. Certainly any view to the contrary would need to be supported by explicit evidence.

economic tools available for valuing the services provided by airports. Such a valuation could be used to put a figure (or range) on the cost to users of delayed investment.

It might be argued that such quantification is difficult to perform reliably, and of course there is some truth in that. However, in taking the qualitative argument into account the CAA *will end up making a quantitative decision*, by setting the cost of capital in its final determination. In effect, it will choose to give BAA a certain quantum of extra money in recognition of the asymmetric risk argument, and it must therefore be right to provide some quantification of the extent of the risk involved (in line with the principles of Better Regulation).

#### *Nature and extent of the adjustments*

One could imagine a range of different approaches that the CAA could take in factoring in its concern over “asymmetric risk”. At one extreme, the CAA could “leave it all until the end”. It would:

1. Estimate a range of values for each of the main components of the cost of capital (risk-free rate, equity beta, ERP etc) according to standard techniques
2. Derive a range of values for the WACC
3. Starting from the mid-point of that range, appropriately shade its estimate up to take account of the asymmetry

At the other extreme, the CAA could adopt a “multiple adjustments” approach:

1. Estimate a range of values for each of the main components of the cost of capital (risk-free rate, equity beta, ERP etc), but in doing so shift each of its estimates up (i.e., in the direction of a higher cost of capital) to take account of the asymmetry.
2. Derive a range of values for the WACC
3. Choose a point above the mid-point of that range

An approach closer to the first of these seems self-evidently better than one closer to the last, for a number of reasons:

- The first approach is much more transparent. With the second approach, even the CAA itself is unlikely to know just how large an adjustment to the cost of capital it has made in recognition of the “asymmetry” concern
- Because the first approach quantifies the size of the adjustment, it allows for proper comparison with the costs of asymmetry (which should be quantified as discussed above)
- The first approach allows any decision about adjusting the allowed rate of return upward to be made toward the end of the process, at a time when the CAA is able to draw on City opinion and will be in a better position to form its overall view as to how “generous” its overall package is likely to be, and to be perceived to be by investors

## Implementation of CAPM

The proposal to rely on the CAPM for this review (despite well-known issues with the model as described for example in the Smithers report) is sensible and in line with regulatory practice in the UK. In the previous BAA price control there appears to have been considerable confusion over what the CAPM actually means. As any finance textbook will explain,<sup>3</sup> the CAPM makes a very sharp distinction between “diversifiable” and “non-diversifiable” forms of risk. Diversifiable risks are those that are specific to the investment in question, for example construction risk in expanding an airport. Diversifiable risks may affect the expected cashflows, but according to the CAPM (and other modern theories of corporate finance) they do not affect the cost of capital. The reason why is that investors can effectively insure themselves against such risks by investing in a diverse portfolio of stocks: in such a portfolio, the shocks are uncorrelated and tend to cancel each other out (the “law of large numbers”).<sup>4</sup> The only issue with such risks arises if they are asymmetric, i.e., have more downside than upside for BAA, so raising the possibility that BAA will—if unlucky—fail to earn its cost of capital. In that case, it is right that BAA should also have the opportunity in the absence of a bad outcome from that risk to earn above its cost of capital.<sup>5</sup>

However, other risks are common to a large number of assets and therefore cannot be dealt with through diversification. For example, the risk that an economic slowdown will lower sales and profits is common to most businesses. According to the CAPM, the cost of capital for any given project depends only on the extent of its exposure to this second kind of risk (which is measured by the beta coefficient).

In the previous price review it was at best unclear whether the CAA’s implementation of the CAPM respected this decision, since the documentation at times gave the impression that the CAA was pushing its estimate of the cost of capital (or of inputs to the cost of capital such as the beta) upward in recognition of risks that appeared to be largely or entirely diversifiable. However, the purpose of this comment is not to look backward, but simply to recommend that the CAA in the current price review be absolutely clear that its assessment of risks facing BAA makes the appropriate distinction between the two types

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<sup>3</sup> See for example Brealey & Myers, *Principles of Corporate Finance*.

<sup>4</sup> The rule of thumb used to be that a 20-stock portfolio was sufficient for a well-diversified portfolio (“excess risk” of no more than 5 percentage points, i.e. no more than 5% “more risk” than the overall market). During the last decades individual stock returns have become more volatile, and it now takes a portfolio of about 50 stocks to reduce excess risk to 5 percent. See Harvard professor John Y. Campbell’s article “Diversification: A Bigger Free Lunch”, *Canadian Investment Review* 13(4):14-15, Winter 2000.

<sup>5</sup> For example, suppose that the cost of capital is 6%, and there is 50% risk of a significant construction delay (that for argument’s sake is outside the hands of BAA). If the delay occurs then BAA will only earn a 5% return. BAA should then be allowed to earn up to a 7% return, so that its “expected” return (in the statistical sense of a probability-weighted average) will be  $50\% \times 5\% + 50\% \times 7\% = 6\%$ .

of risk. To ensure that clarity, whenever the CAA argues that the cost of capital needs to reflect a certain risk, it should provide explicit argumentation/evidence either that the risk in question is indeed a non-diversifiable one and therefore raises the cost of capital, or that it is an asymmetric risk that justifies a higher maximum allowed return (to compensate for the possible downside from the risk in question).

## Potential error in calculation of the real WACC

There is a common error in calculating the real (i.e., net of inflation) Weighted Average Cost of Capital, from which previous UK price controls have not been immune. The error is a purely technical one that arises in making the inflation adjustment from nominal to real.

The error arises in estimating the real cost of debt. The correct approach is to:

1. Calculate the nominal cost of debt. The nominal after-tax cost of debt is given by

$$(1-t_c)r_d^{nom}$$

where  $t_c$  is the corporate tax rate and  $r_d^{nom}$  is the nominal cost of debt. This in itself is given by  $r_d^{nom} = r_f^{nom} + p$  where  $p$  is the appropriate debt premium.

2. Subtract the inflation rate. So the real after-tax cost of debt is given by

$$(1-t_c)(r_f^{nom} + p) - i$$

where  $i$  is the inflation rate.

However, a common alternative approach is simply to use the real risk-free rate  $r_f^{nom} - i$ .

**This is a mistake.** It gives an incorrect expression for the real after-tax cost of debt of  $(1-t_c)(r_f^{nom} + p - i)$ . We know this latter expression is incorrect, because it is different from the expression in point 2 above, and that expression is obviously correct.

How material is this effect? For illustrative effect, we use the figures quoted in Table 9-1 of the CAA document (taken from the CC 2002), and take the midpoint of each one (and assume inflation of 2.0%). As Table 1 below shows, the effect with these figures would be to over-estimate the WACC by 0.15%, which would have been equivalent to some £50m over the 2003-08 quinquennium (based on applying the 0.15% difference annually over five years to a RAB of approx. £6bn).

**Table 1: Over-estimation of WACC<sup>6</sup>**

Parameter		
Nominal risk free rate ( $r_f^{nom}$ )	[1]	4.63%
Debt premium (p)	[2]	1.05%
Nominal pre-tax cost of debt ( $r_d^{nom}$ )	[3] = [1] + [2]	5.68%
Tax rate ( $t_c$ )	[4]	30%
Inflation Rate (i)	[5]	2%
Correct real after-tax cost of debt $(1-t_c)(r_d^{nom}) - i$	[6] = (1-[4])([3]) - [5]	1.97%
Incorrect real after-tax cost of debt $(1-t_c)(r_f^{nom} + p - i)$	[7] = (1-[4]) ([1]-[2]-[5])	2.57%
Gearing	[8]	25%
After-tax real cost of equity	[9]	5.88%
After-tax real WACC (correct)	[10] = ([8] x [6]) + (1-[8])[9]	4.90%
After-tax real WACC (incorrect)	[11] = ([8] x [7]) + (1-[8])[9]	5.05%
Difference	[12] = [10] - [11]	-0.15%

<sup>6</sup> To be pedantic, the treatment of inflation in the example is still slightly wrong – the real risk free rate should be  $(1+r_f^{nom})/(1+i)-1$ . However, for low levels of inflation the difference is small, and the methodology we have shown is conventional.

## **Specific Comments**

### **General Approach (9.10-9.12)**

We would endorse the proposal to rely on the CAPM as the central component in assessing the cost of capital. The CAPM is the standard approach, and (allowing for the complexities) well-understood by the most relevant stakeholders. Any attempt to move away from the CAPM would risk introducing an element of regulatory uncertainty because:

- It is unclear what the alternative approach would be;
- Whatever the alternative was, it would likely involve discussion of a number of models that are not as well-established, understood or accepted as the CAPM;
- Comparison with other UK economic regulators would become more difficult.

The additional uncertainty could in itself make it more difficult for regulated companies to raise capital.

### **Generic Factors in the WACC**

The proposal to avoid duplication of work by limiting the CAA analysis of the generic factors seems sensible. An obvious corollary is that the CAA will not introduce arguments after the CC review that should properly have been subject to CC scrutiny, and while we are confident that would be the case, it might be helpful for the CC to make it explicit.

### ***Key issues for the Q5 review***

#### **Stand-alone price caps**

In principle there is no objection to estimating a separate cost of capital for each airport, and the CAA has rightly identified a theoretical advantage in having the allowed return on different projects reflect the different levels of risk of each project. However, there are significant practical problems and we suspect that the balance of the argument is therefore against the proposed approach. Below we outline the practical difficulties. For the avoidance of any confusion, we also note that the question of separate cost of capital is quite distinct from the question of separate overall price regulation for the different airports. By analogy, it is perfectly reasonable to estimate a single cost of capital for all the GB electricity distribution companies, but that in no way implies that the regulator ought to give them a common RAB or introduce some other form of cost-sharing.

With regard to practicalities, the CAA proposal here is somewhat difficult to follow, since it is not clear to us how one would estimate separate betas, separate gearing, and separate taxes. In each case there are considerable theoretical and/or practical difficulties:

*Separate betas*

Historical stock market data provide a standard and generally reliable way to estimate betas. Such data exists for BAA, but not for the individual airports. While it might in principle be possible to use sophisticated analytical techniques to attempt to estimate the non-diversifiable level of risk for different airports (for example, by looking at the cashflows from different airports, so-called accounting betas), we would question the value of any such exercise. Accounting betas are a poor substitute for stock market betas. Moreover, we assume that the CAA does not envisage undertaking such an exercise.

An alternative approach might be to make adjustments to the beta on the basis of qualitative arguments. For example, one might argue that Heathrow's beta should be 0.76 rather than 0.66 (the current measured value of the BAA beta<sup>7</sup>), because Heathrow faced particular risks x,y etc. **We recommend against any such approach:**

- It risks being arbitrary and untransparent, as there would seem to be no sensible way of linking the quantitative adjustment made to the qualitative argument that supported it.
- It would be inconsistent with standard practice in applying the CAPM to price controls, since the CAPM defines beta as the coefficient describing the relationship between stock and market returns; it is hard to see how there could be a sufficiently reliable justification for applying subjective adjustments to the beta estimate obtained from statistical analysis (certainly without complex techniques such as Bayesian analysis that seem impractical for this price review).
- The potential differences in beta between airports are likely to fall within the statistical uncertainty inherent in the overall BAA beta estimate. i.e the individual betas are almost certainly statistically indistinguishable from the overall BAA beta.<sup>8</sup>

A further important point is that the BAA beta is (approximately speaking) the weighted average of the beta of its main airports. If the CAA believes that one of the airports has a beta that is higher than the overall BAA beta, then by definition at least one of the other airports must have a beta that is lower than average.

#### *Separate gearing*

As best we understand, the individual airports do not have separate debt and equity. It is therefore hard to know what it means to identify separate gearing for each airport: an

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<sup>7</sup> From the London Business School Risk Measurement Service, Jan-March 2006. Note that this value already contains an upward adjustment from the "raw" measured value, in the form of the "Bayesian adjustment".

<sup>8</sup> However, the large uncertainty cannot *per se* be used to justify the choice of a beta that is much larger (or smaller) than the point estimate derived from standard techniques. Statistical theory tells us that the conventional point-estimate is (in various well-defined senses) the best possible estimate of the beta from the historical data used.

individual airport does not have its own debt that makes an identifiable contribution to the BAA debt tax shield (which in turn feeds into the cost of capital). Nor do individual airports have their own equity (they have their own book value, but it is well-known that equity should be estimated on the basis of market not book value for the purposes of the WACC). There may well be significant synergies between operating different airports that make the value of BAA more than the value of its individual airports, further complicating the task.

#### *Separate taxation*

Again it is unclear what this would mean in practice. Does the CAA intend to identify the marginal tax implications of additional investments at each airport? This would seem to require a great deal of complex analysis—it is undoubtedly conceptually and practically challenging.

The CAA should consider these practical issues with care before deciding to assess separate price caps. It must balance the theoretical advantages against the costs of additional complexity, which might inadvertently reduce transparency and divert CAA and stakeholder resources from other issues. We also note that at the last price control the CAA evaluated the cost of capital for each airport separately, and found that each airport had the same cost of capital.

### **Incentives for equity investment**

The issue addressed here is that of “regulatory commitment”. It is well-described in a recent Ofgem/Ofwat discussion paper:<sup>9</sup>

*The issue of regulatory commitment arises because there is an inherent timing mismatch between the five yearly price setting cycle and the much longer tenor of financing of infrastructure businesses. Uncertainty in the financial markets about the allowed cost of capital at future reviews tends to increase the regulatory risk premium in the cost of capital. Some commentators regarded the regulatory commitment issue as a serious constraint on financing of regulated businesses prior to the 2004 reviews. The improved regulatory processes and transparency referred to above as well as the particularly favourable current debt market conditions have, for the time being, ameliorated those concerns. However complacency would be a mistake – in the runup to the 2009 reviews these concerns may well resurface.*

We recommend against any move toward a split or front-loaded cost of capital in this review. Some of the arguments presented are conceptually correct, but the case for change is as yet by no means established, and any change should be common across UK regulators, and should follow detailed evidence-based deliberation, including quantitative evidence. In the meantime the CAA should rely on the “improved regulatory processes

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<sup>9</sup> Ofgem/Ofwat, Financing Networks: A Discussion Paper, February 2006. From Foreword by Keith Palmer (of Rothschilds and CEPA).

and transparency” referred to above—the same paper described these in more detail, as follows:

*The 2004 Ofgem and Ofwat price control reviews can be regarded as successful for three reasons. First, because regulatory risk has diminished. The adoption of more transparent regulatory processes, effective communication with the financial markets through City briefings and extensive consultations during which regulators were seen to be listening as well as speaking all contributed to ensuring there were no ‘regulatory shocks’ when the determinations were announced. The regulators showed in their actions that they were well informed about the issues of greatest concern to consumers and to the providers of finance. The regulatory risk premium in the cost of capital should go down as a result.*

## **Gearing**

We make three general points here. First, it is clearly important not make extremely unrealistic gearing assumptions. If the price control is based on 25% gearing and the company moves to 50% then the estimated cost of capital will be too high by a significant amount. The CAA should therefore ensure that however its gearing assumption is arrived at, it is a realistic one.

Second, while there are arguments for using an assumed/estimated “efficient level of gearing”, one ought to be careful of second-guessing market participants. The evidence shows that different firms have gearing within a wide range, suggesting that the tradeoff between the tax benefits of additional debt and the negative consequences of increased risk of financial distress as one takes on more debt may be fairly flat over a broad range.

Third, it is essential to have consistency between the cost of debt estimate and the gearing estimate. If the regulator assumes high gearing then it must also assume a relatively high cost of debt.

## **Taxation**

We endorse the use of actual/effective taxes. The approach taken at the last review was probably unnecessarily favourable to BAA, since the assumed 30% rate was higher than the actual effective rate. The use of actual taxes will avoid the same outcome in the next five-year period. It is also consistent with evolving UK regulatory practice, as both Ofgem and Ofwat have made this change in their most recent price controls.

## **Financeability**

We endorse the approach laid out by the CAA. With regard to the reference in 9.39 to the need for significant new capacity, it is not clear why the need to invest in significant new capacity should entail critical levels of interest cover—that depends on financing decisions that are BAA’s to make and live with.

In the event that the CAA should in future feel the need to provide some protection for financeability, it should do so via profiling rather than as a “gift” to BAA. However, this should be very much a last resort.