Economic regulation of Heathrow Airport Limited: H7 Final Decision

Section 3: Financial issues and implementation

CAP2524D

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Weighted average cost of capital

Introduction

9.1 This chapter sets out our final decisions for the weighted average cost of capital ("WACC"), which is a key building block of the revenue we allow HAL to earn under the price control. The WACC is the weighted average of HAL's cost of equity and cost of debt finance. It represents a return on the RAB and acts as a payment to investors and creditors for the risk they incur by committing capital to the business. Setting an appropriate WACC furthers the interests of consumers by helping to secure that:

- HAL is able to finance the investment it needs to carry out its activities and meet the reasonable demands for AOS through providing a resilient and good quality airport experience; and
- efficient financing costs are reflected in the price control, which are no higher than necessary.

9.2 Setting an appropriate WACC is also one of the means by which we have regard to our financing duty and helps promote economy and efficiency on the part of HAL.

9.3 For each parameter used for setting the WACC, we set out below:

- a summary of Final Proposals;
- stakeholder views on our Final Proposals, and our response to these views;
- where appropriate, how we propose to update our estimate to reflect the latest market developments; and
- our updated estimate.

9.4 We conclude this chapter by aggregating each parameter into a range for the WACC and selecting a point estimate from within the range.

9.5 We note that HAL submitted a further report on the WACC by its advisors, Oxera, alongside its Investor Update in December 2022. We have conducted a review of this report, which has not led us to change our approach. Given that this report was provided relatively late in the process we have decided not to provide a detailed response to the points raised in this document.

Macroeconomic variables

9.6 Macroeconomic variables comprise the WACC parameters that apply on an economy-wide basis, and are external to HAL, namely:

- the risk free rate;
- the Total Market Return ("TMR"); and
- inflation.

9.7 The risk free rate and TMR are important components in our estimate of HAL's cost of equity finance. Inflation and our approach to adjusting the nominal cost of debt to a real cost of debt are also important in establishing the real cost of debt finance we use in calculating HAL's WACC.

Final Proposals

9.8 We based the forecast of RPI inflation during H7 used for the Final Proposals on the Office for Budget Responsibility's March 2022 Economic and Fiscal Outlook.

Table 9.1: Final Proposals: forecast of RPI inflation during H7

	2022	2023	2024	2025	2026	Average
Final Proposals (OBR March 2022)	9.80	5.50	2.30	2.50	2.70	4.56

Source: OBR

9.9 We proposed different deflators for different types of debt instrument:

- for embedded and new fixed-rate debt, we proposed to deflate the nominal cost of fixed-rate embedded debt by the March 2022 OBR forecast of RPI inflation for the H7 period;
- for embedded index-linked debt, we proposed to deflate the "nominal" cost of index-linked embedded debt by an estimate of historical long-term inflation expectations of 2.7%; and
- for new index-linked debt, we proposed to deflate the "nominal" cost of new index-linked debt using estimated long-term inflation expectations in each year of H7.

9.10 Our reasoning for using each type of deflator is set out in paragraphs 9.205 to 9.224 of the Final Proposals.

9.11 We used the CMA's estimate in its decisions on the PR19 price controls of 5.85% RPI-real for the TMR. However, we noted that this estimate could be seen as upwardly-skewed given the high inflation and low prevailing interest rate environment we forecast for the H7 period when we published the Final Proposals.

9.12 For our estimate of the risk free rate, we used the March 2022 average of:

- the yield on index-linked gilts; and
- the yield on index-linked gilts together with an estimate of the convenience yield on these instruments of 32bps.

9.13 This resulted in an estimated risk free rate of -2.03% RPI-real for H7.

Summary of stakeholders' views

HAL

9.14 HAL objected to our method allowing for inflation, advocating instead for the use of a measure of "long-term" RPI inflation as the basis for deflating nominal yields. It set out the following reasons why it considered our approach to be inappropriate:

- it represents a deviation from a "real return" regime, towards a regime based on setting a nominal return on debt;
- it does not eliminate the risk that the real cost of debt and real equity returns will deviate from forecast;
- annual inflation measured over the long run will be less volatile than annual inflation measured over the next five years;
- deflating nominal inputs for the cost of debt using long-term inflation spanning multiple price controls is consistent with how the cost of debt is determined in the market;
- changing from long-term to short-term inflation forecasts, when inflation is high, would be asymmetric as it would claw back the allowance for the cost of embedded debt;
- the position used in the Final Proposals is a change from our previous position on inflation from Q6, which HAL considered will lead to increased regulatory risk;
- the CMA decided against adopting short-term inflation for the PR19 price controls;
- regulators have not sought to intervene either in response to forecast, or actual, inflation being lower than the long-term average; and
- our approach creates a greater financeability issue than in previous price controls, by putting additional pressure on financeability at a time when the airport already faces significant risk.

9.15 HAL did not object to our TMR range in itself, but expressed concern regarding our views on the implications of high inflation and low interest rates. Specifically, it noted that:

- our views regarding the impact of high inflation on real equity market returns were based on a single source (namely, the paper by Ammer (1994)[1]) ("the Ammer paper");
- the Ammer paper in fact finds a positive relationship between inflation and equity market returns in the UK;
- the current climate of elevated equity market volatility implies a higher-than-average TMR in H7; and
- we did not consider the latest ONS publication on inflation in May 2022 regarding the CPI backcast series.

9.16 HAL considered that our approach to the risk free rate in the Final Proposals is appropriate and proposed no further updates.

Airline stakeholders

9.17 CEPA, on behalf of IATA, made the following comments in respect of our inflation estimate:

- it stated general support for the structure proposed by the CAA for nominal and index-linked debt;
- it continued to advocate for the use of market-based inflation measures such as "breakeven inflation[2]" to deflate the cost of debt. CEPA stated that the use of RPI breakeven inflation would ensure that there is direct comparability to the CAA's real RPI cost of debt framework and method of asset base indexation;
- it stated that it is not appropriate for consumers to pay a real cost of debt that includes an inflation risk premium, given that variances in outturn inflation are passed to consumers; and
- it noted that five-year breakeven inflation has underestimated five-year outturn inflation by 10bps since the start of 1997. CEPA inferred from this that the use of breakeven inflation is not asymmetric or problematic.

9.18 With respect to the TMR, CEPA highlighted that we have not resolved the issues that they previously highlighted. It also noted that it would have been preferable for us to reflect the impact of high inflation and low interest rates directly in the

[1] Ammer, J. (1994), "Inflation, inflation risk and stock returns", Board of Governors of the Federal Reserve System: International Finance Discussion Papers, Number 464, April.

[2] Being the difference between yields on fixed-rate and indexed-linked debt instruments, typically gilts.

TMR range we used for the Final Proposals, instead of through the choice of the point estimate for the WACC.

9.19 As for the risk free rate, CEPA noted that our approach will change the level of the risk-free rate and cost of new debt to a level closer to current conditions, but this could lead to larger changes in regulatory allowances than a smoothed longer profile.

Our views

Inflation

Relevance of precedent and previous airport price control decisions

9.20 We are not persuaded that previous determinations by us or other regulators require that we use a long-term inflation estimate to deflate nominal yields.

9.21 Regulatory practice in this area is not uniform. Some other regulators, including the CMA in certain of its inquiries, have used long-term inflation as the basis for deflating nominal yields historically. However, the CMA has also used independent forecasts of inflation to estimate the cost of debt in the context of the RP3 determination[3] and its determination of the NIE price control[4].

9.22 Moreover:

- between 2000 and 2021, UK inflation forecasts have only deviated from their long-term averages by a relatively small amount, implying that HAL has not been systematically under-remunerated under our previous approach of using long-term inflation forecasts;
- the CMA has not considered the appropriate deflator to use in the context of the current inflationary environment; and
- we consider that it is reasonable to change our approach in circumstances where retaining our previous approach would lead to a material miscalibration of the price control that is not expected to reverse over any defined time period. This is the case in the current context: the inflation forecast over H7 is significantly above the long-term level, and using the latter to deflate nominal yields would result in a windfall gain for HAL at the expense of significant consumer detriment.

[3] CMA (2020), “NATS (En Route) Plc / CAA Regulatory Appeal: Provisional findings report”, March, paragraph 12.153.

[4] CMA (2014), “Northern Ireland Electricity Limited price determination: Final Determination”, paragraph 13.69.

Volatility and risk

9.23 We are not persuaded that the use of OBR forecasts materially increases the risk to investors and we disagree that our approach constitutes a change from a "real return" regime to a "nominal return" regime.

9.24 A degree of forecasting risk remains under our approach, although we note that this is partly mitigated by our cost of new debt indexation mechanism. However, we consider that forecasting risk is at least as material under HAL's proposed approach.

9.25 We acknowledge that five-year inflation forecasts are, by definition, more volatile than long-term forecasts. However, it is in the nature of a five-year price control framework that key variables such as inflation will be periodically updated.

9.26 Since we set a cost of debt allowance that is constant in RPI-real terms (regardless of outturn RPI inflation), we consider that our approach comprises a "real return regime", not a "nominal return regime". We agree that we have estimated the RPI-real cost of fixed rate debt with reference to the expected nominal cost of such debt in H7. However, we consider that this is in line with standard regulatory practice.

9.27 The objective of price control regulation is not to replicate the process by which the cost of debt was determined in the market. Instead, our approach ensures that the cost of debt allowance appropriately remunerates the forward-looking costs we would expect to be incurred by the notional company.

9.28 We do not agree that our approach creates a financeability issue. We assess financeability in chapter 13 (Calculating the price cap and financeability) of this Final Decision.

Use of breakeven inflation

9.29 We continue to disagree with the use of breakeven inflation as the basis for deflating nominal yields and make the following observations:

- for the reasons we explained in paragraphs 9.207-9.208 of the Final Proposals, we consider that breakeven inflation systematically overstates forward-looking inflation;
- the inflation risk premium is a cost that any issuer of fixed-rate debt securities must incur as a precondition of accessing debt markets. As such, we consider that it is appropriate for consumers to fund these costs, even though they are also subject to variations in inflation through indexation of the price control;
- we note CEPA's observations regarding the historical comparison of five-year breakeven inflation and subsequent levels of outturn inflation. Nonetheless, we consider that the OBR's forecasts represent the best predictor of future RPI inflation.

TMR

General

9.30 We set out our responses to CEPA's concerns in paragraphs 9.185-9.196 of the Final Proposals. We note CEPA's preference for reflecting the relationship between inflation, interest rates and TMR directly in the TMR range used to calculate the WACC. However, we consider that this requires a significant degree of judgement, so consideration of this is more suited to the approach to making the decision on the point estimate for the WACC itself.

The Ammer paper

9.31 The Ammer (1994) paper was used in the Final Proposals as an illustrative example of a broader concern regarding the relationship between inflation and real equity returns. We acknowledge that the paper did not find a statistically significant relationship between inflation and stock returns in the UK over the period 1962 to 1990. However, an overall negative correlation is clear across multiple stock markets, both in Ammer's analysis and in subsequent empirical work.[5]

9.32 We remain of the view that unexpectedly high inflation will be viewed by investors as bad for stock market returns because it reduces consumption, economic activity and company profits. Indeed, the evidence from economies and markets around the world in 2022 validates this point of view. This suggests that we are entitled to allow in this Final Decision for a reduction in the real expected market return as a consequence of abnormally high inflation.

Equity market volatility

9.33 We have seen no evidence to suggest that equity returns are likely to be elevated in H7 as a consequence of current volatility.

ONS CPI backcast series

9.34 The Final Proposals gave weight to both CPI- and RPI-stripped estimates of historical returns, in line with the approach that the CMA took in its PR19 decision.

9.35 We note that the ONS issued new CPI and CPIH backcasts in May 2022. Given the proximity of the release of this information to the publication of the Final Proposals, we did not have sufficient time to take this evidence into account. However, having now had the opportunity to review the data set, we consider that the ONS's updated assessment of historical inflation (a) results in no material change in previous estimates of CPI-stripped historical returns and (b)

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[5] See, for example, Jorda, Knoll, Kuvshinov, Schularick, Taylor (2019) The rate of return on everything 1870-2015, Quarterly Journal of Economics.

gives a new estimate of CPIH-stripped historical returns that is broadly in line with the TMR estimate used in the Final Proposals.

9.36 Accordingly, the ONS's new backcasts give us no reason to change our TMR value.

Risk free rate

9.37 We acknowledge that using shorter trailing average periods for estimating the risk free rate will lead to higher volatility in our estimates. However, we consider that this is warranted under the circumstances, given the significant shifts in the macroeconomic environment, which we discuss further below.

Updating for recent market developments

9.38 As we have explained in the Summary, the macroeconomic situation has shifted considerably since we published the Final Proposals and we have decided to update our estimate of the WACC for these recent changes.

9.39 In particular:

- RPI inflation has increased substantially; and
- yields on UK index-linked gilts, UK nominal gilts and high-quality UK corporate bonds have all increased substantially.

9.40 To reflect these developments, we have considered the latest OBR forecast of RPI inflation, as set out in its November 2022 publication of its Economic and Fiscal Outlook. This is set out below.

Table 9.2: Updated forecast of H7 RPI inflation

	2022	2023	2024	2025	2026	Average
Final Proposals (OBR March 2022)	9.80	5.50	2.30	2.50	2.70	4.56
Updated forecasts (OBR November 2022)	11.60	10.70	1.50	-0.40	1.00	4.88

Source: OBR

9.41 We have also updated our estimate of the risk free rate to reflect data up to a cut-off date of 17th November 2022. Based on the same method that we applied for developing the Final Proposals, this results in an RPI-real risk free rate estimate of 0.59%.

9.42 We have not updated our view of the TMR as we do not consider that recent equity data materially changes our long-run historical benchmarking.

Asset, debt and equity beta

9.43 The equity beta represents the extent to which a company's stock is correlated with the market index. A higher equity beta implies that investors require a higher expected equity return to induce them to invest in the stock. Equity beta is an important variable in the calculation of HAL's overall cost of equity finance.

9.44 The asset beta of a company is equivalent to its equity beta if it had no debt outstanding and represents the underlying systematic risk exposure of the company's assets. The debt beta represents the proportion of a company's systematic risk exposure that is attributable to debt. Both asset and debt beta values are used to help calculate equity beta values.

The Final Proposals

9.45 In the Final Proposals, we adopted a three-stage approach towards estimating the H7 asset beta:

- Firstly, we assumed that the pre-pandemic asset beta was in line with our previous determination of 0.50.
- We then estimated the (unmitigated) impact of the pandemic on the asset beta. In doing so, we assumed that the pandemic neutralised the effect of the capacity constraint on HAL's beta relative to the asset betas of appropriate comparators and estimated the impact of the pandemic on comparator airports; and
- We then reduced the pandemic-affected asset beta to reflect the impact of the TRS mechanism we set out in the Final Proposals, using network utility asset betas as a benchmark alongside comparator airport asset betas.

9.46 Based on this approach, we concluded that a reasonable range for the asset beta would be 0.44-0.62.

9.47 We estimated a range for the debt beta of 0.05-0.10. The lower bound estimate corresponded to an assumption that there is no difference in debt beta between HAL and its comparators. The upper bound reflected the view that HAL's higher gearing implies a higher debt beta relative to comparator airports.

9.48 Based on these assumptions for the asset and debt betas, together with our H7 notional gearing assumption of 60 per cent, we estimated a range for the H7 equity beta of 0.95-1.47.

Summary of stakeholders' views

HAL

9.49 HAL expressed concerns regarding various aspects of our approach. These are summarised below.

Overall approach to estimating the H7 asset beta

9.50 HAL reiterated its previous view that our approach is not based on market data.

9.51 It expressed concern with the number of steps and assumptions involved in our estimation process, and considered that, in several instances, we had made errors or failed to provide any evidence for the assumptions used.

9.52 HAL and its advisors, Oxera, also provided an analysis of airline betas in support of its view of the H7 asset beta.

9.53 It stated that a beta estimate for H7 that is below the average for the market is not credible.

Pre-pandemic asset beta

9.54 With respect to the pre-pandemic asset beta, HAL referred to the CMA's RP3 determination, which it viewed as supporting a higher estimate.

9.55 It suggested that the pre-pandemic evidence for comparator airport operators ADP and AENA provides no support for an asset beta of 0.5 (the lower bound of our range).

Impact of the pandemic

9.56 HAL disputed our assessment of the likely ongoing impact of the covid-19 pandemic on the asset beta in H7. Specifically, HAL indicated that it is a "*clear error evidently not supported by data now available*"[6] to assume that the covid-19 pandemic will not affect HAL's asset beta in H7. Oxera, on behalf of HAL, presented evidence, from which it inferred that the pandemic continues to affect the aviation sector.

9.57 On the other hand, HAL has suggested that it was an error to have assumed that all of the increase in airports' asset beta since February 2020 has been due to the pandemic.

9.58 Oxera questioned our assumptions around the length of future pandemics and the weight we have placed on pandemic-era data.

Impact of the TRS

9.59 HAL made a number of comments regarding our quantification of the impact of the TRS arrangements on our estimate of HAL's asset beta, including:

- questioning our calibration of the proportion of the difference between airport and utility beta values associated with volume risk, the use of utility beta values as a benchmark and the assumption that traffic risk is largely systematic;

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- stating that the assumption that the TRS mitigates 50 per cent of traffic risk is based on judgement and insufficiently precise; and
- stating that we have not properly assessed or calibrated the impact of the risk sharing arrangements in place at other airports.

Debt beta

9.60 HAL stated that we have continued wrongly to rely on an assumption-driven approach that is not supported by statistical evidence on debt betas.

Airline stakeholders

9.61 CEPA's feedback, on behalf of the airlines, principally focussed on our estimate of the impact of the pandemic on the H7 asset beta, but provided views on other issues as well.

Pre-pandemic asset beta

9.62 CEPA referred to arguments it has previously made around the use of a broader comparator sample, the choice of relative index and selecting the appropriate time horizon, which in its view suggested a lower asset beta than set out in the Final Proposals.

9.63 It also stated that we did not apply an adjustment for the capacity constraint prior to the onset of the pandemic in a way that is consistent with the proposed uplift for the impact of the covid-19 pandemic.

Impact of the pandemic

9.64 CEPA made the following points in relation to our estimate of impact of the covid-19 pandemic impact on the H7 asset beta:

- the loss of excess demand at Heathrow during the pandemic is likely to be termporary, and HAL is likely to exhibit lower risk than comparator airports once it returns. As such, any increase in the asset beta to reflect the loss of excess demand during the pandemic should be small;
- we have not explained why the pre-pandemic capacity constraint at Heathrow should have a greater impact on the asset beta than the TRS mechanism;
- the use of a singular 'covid window' and pooling observations creates an inappropriate upwards bias;
- our approach is inconsistent with regulatory precedent, which uses rolling beta estimates;
- we have exacerbated the pandemic impact error by repeating beta estimates from the start of the pandemic;

- Swiss Economics, on behalf of the Commission for Aviation Regulation in Ireland, found that asset betas had fallen for ADP and Fraport relative to their levels prior to the pandemic. As such, it is not appropriate for us to assume that asset betas will remain elevated for extended periods of time in the context of future pandemics; and

CEPA also referred to previous critiques around our assumed duration and frequency of a pandemic-like event.

Impact of the TRS

9.65 CEPA highlighted that alternative assumptions could reasonably be adopted and generate a somewhat larger risk mitigation impact, but said that it generally agrees with the basis for the calculation.

9.66 Alix Partners, on behalf of the airlines, stated that we were incorrect to assume that, compared to UK energy and water networks, HAL is exposed to additional risks other than traffic variability.

Our views

Overall approach to estimating the H7 asset beta

9.67 We do not accept stakeholders' general views regarding the approach used in the Final Proposals to estimating the asset beta.

Number of steps and the use of market data

9.68 While we acknowledge that our approach is more complicated than has previously been the case, this has been driven by the exceptional circumstances under which this decision has been made. Where it was practicable and reasonable to do so, we have used market data to calibrate our approach.

Use of judgement

9.69 We acknowledged in Final Proposals that our assessment relied, to a greater degree than is usually the case when estimating the asset beta for a regulated business, on judgement. This results from:

- the lack of close, listed comparators for Heathrow airport;
- uncertainty associated with the impact of pandemic risk beyond 2021; and
- the introduction of the TRS mechanism, which is not present in a similar form at any other listed comparator airport.

9.70 However, we do not accept that HAL's proposed alternative approach is better evidenced or relies to a lesser degree on judgement. Indeed, HAL's approach is also based on a number of strong (albeit often unstated) judgements, including:

- the extent to which pandemic-period data will be representative of conditions in H7;
- the length of measurement window that should be used to estimate airport betas; and
- the impact of risk sharing arrangements at comparator airports, including, but not limited to, the weight that should be assigned to different airports.

Airline betas

9.71 Oxera's analysis of airline betas suffers from the same flaw as its analysis of airport betas because it is highly likely to substantially overweight pandemic-period data.

Market average beta

9.72 We consider that it is entirely credible that HAL's beta will be lower than the market in H7. Prior to the pandemic, airport asset betas were consistently lower than the market and it is reasonable to expect that, during benign periods unaffected by pandemic-like events, they will remain so.

Pre-pandemic asset beta

Comparator sample, choice of index and assumed pandemic frequency/duration

9.73 These issues were discussed extensively in both the Initial Proposals and the Final Proposals.[7] Having reflected on these matters, we do not consider that it is appropriate for us to change our approach, so we do not provide further discussion of these issues here.

Adjustment for the capacity constraint

9.74 CEPA's statements about capacity constraints at Heathrow appear to reflect a disagreement regarding the pre-pandemic beta estimates for comparator airports, rather than with the application of the adjustment for the capacity constraint in itself. The analysis set out in the June 2020 Consultation suggested that the asset betas for comparator airports were between 0.50-0.60. CEPA's analysis showed lower estimates for the comparator airport asset betas based on its interpretation of the evidence prior to the pandemic. We continue to regard our estimates of the pre-pandemic asset beta as reasonable, for the reasons set out in paragraphs 4.24-4.28 of the June 2020 Consultation.

[7] In the Final Proposals, the choice of comparators was discussed in paragraphs 9.64-9.72 and 9.102-9.105. The choice of index was discussed in paragraphs 9.75-9.76. The assumed frequency and duration of future pandemic-like events was discussed in paragraphs 9.114-9.125.

Relevance of RP3 and support for our lower bound

9.75 We explained in paragraphs 9.82 and 9.83 of the Final Proposals why we do not consider the CMA's RP3 determination to constitute a binding constraint with respect to the H7 asset beta.

Impact of the pandemic

Excess demand and relative risk

9.76 It is not clear that capacity constraints will continue to drive a wedge between Heathrow and comparator airports beta values. While it is likely that capacity constraints will return at Heathrow airport, it is also likely that they will emerge at comparator airports in the future. As such, we consider it is reasonable to assume a narrowing of the future risk differential between HAL and comparator airports.

Relative magnitude of the capacity constraint and the TRS

9.77 We consider that it is entirely plausible for the impact of the pre-pandemic capacity constraint to be larger than the impact of the TRS. For example, while the TRS insulates HAL from approximately half of total demand risk, the capacity constraint previously insulated HAL from most fluctuations in unconstrained demand.

Weighted average beta vs "pooled sample" approach

9.78 We explained in Paragraphs 9.106-9.109 of the Final Proposals why we consider what CEPA described as the "pooled" sample approach represents the appropriate basis for estimation.

Use of rolling beta estimates and consistency with precedent

9.79 In the current context, we do not consider that rolling beta estimates would be appropriate for the same reasons that we consider CEPA's weighted average of separate pandemic and non-pandemic betas is inappropriate: namely, that such an approach disregards statistical interactions between datapoints in different periods and, so, may lose accuracy and efficiency. In addition, rolling betas effectively assign arbitrary and opaque weights to different datapoints. We note that a consequence of these features is that CEPA's estimates are highly sensitive to measurement windows and classification of data as pandemic-affected or non-pandemic-affected.

Repetition of beta estimates from the start of the pandemic

9.80 For the reasons set out in Paragraphs 9.106-9.109 of the Final Proposals, we do not consider that Flint's re-weighting method exacerbates any underlying error, or that any underlying error exists. Flint's analysis shows that different classifications of post-2020 data have little impact on the overall estimates, which are also relatively insensitive to the inclusion or exclusion of "post-pandemic" data.

Swiss Economics report for the Commission for Aviation Regulation

9.81 We have also carried out our own analysis of short-term asset betas based on post-2020 data and we agree that this evidence points to a lower post-pandemic asset betas for some airport comparators compared with the asset betas measured prior to the pandemic. We consider that this evidence suggests that it is unlikely that the impact of the covid-19 pandemic is continuing to influence comparator airport asset betas. However, we consider that it remains legitimate and appropriate for us to consider a range of possible durations for future pandemic-like events, since we cannot be certain that the impact of such events will be of the same duration as the covid-19 pandemic.

Evidence of ongoing impact of Covid-19

9.82 We disagree with HAL's suggestions of a "clear error". HAL stated that "*values since 1 January 2022 remain materially above [the pre-pandemic] level*"[8]. However, this is only the case when these values are estimated based on measurement windows that are largely comprised of pandemic-affected data. Shorter (for example, 6-month) measurement windows demonstrate not only that airport asset betas have converged towards their pre-pandemic level, but in some cases are now lower than this level. Further, we are not suggesting that the impact of the covid-19 pandemic is not continuing to affect HAL. We are simply highlighting that the evidence does not suggest elevated asset betas for comparator airports.

Frequency and duration of pandemics

9.83 We have extensively discussed our assumptions in respect of the frequency and duration of the pandemic in paragraphs 9.114-9.125 of the Final Proposals. We acknowledged that we were obliged to exercise our judgement on this issue, but we have seen no evidence to suggest that alternative assumptions would materially improve the robustness of our assessment.

Impact of the TRS

Use of network utility benchmarks and volume risk calibration

9.84 We continue to regard utility beta values as a useful benchmark for a price controlled entity with little or no volume risk. We also consider that we have used a reasonable range for the likely proportion of the difference between HAL and utility asset betas that can be attributed to volume risk.

[8] HAL (2022), "Economic regulation of Heathrow Airport Limited: H7 Final Proposals (CAP2365)", August, paragraph 10.6.31.

Quantification of risk reduction due to the TRS

9.85 Our assumption that the TRS mitigates 50 per cent of HAL's volume risk is in line with the overall calibration of the TRS and its longer-term impact.

Risk sharing arrangements at comparator airports

9.86 We have assessed the impact of risk sharing arrangements of comparator airports as explained in paragraphs 9.126 to 9.128 of the Final Proposals.

Debt beta

9.87 We disagree with HAL's statement that we have relied on an assumption-driven approach. We explained the evidentiary basis for our estimate in paragraphs 9.86 to 9.99 of the Initial Proposals.

Updating for recent market developments

9.88 Although recent market developments have affected both debt and equity markets, we do not consider that they should, in principle, materially affect HAL's relative risk compared with the broader market index.

9.89 The debt beta for H7 inevitably involves a degree of judgement. We consider that our Final Proposals range, which was marginally above our estimate for Q6, is both intuitively plausible and consistent with the available evidence.

9.90 We have, therefore, decided to retain asset beta range of 0.44-0.62 from the Final Proposals and our debt beta range of 0.05-0.10.

Cost of debt

9.91 The cost of debt represents the debt financing costs that the notional company is expected to incur in H7. It includes:

- the cost of embedded debt (that is, debt that the notional company is assumed to have already issued at the start of H7);
- the cost of new debt; and
- issuance and liquidity costs (costs associated with issuing debt that are not captured directly within the base cost of the debt allowance).

The Final Proposals

9.92 In the Final Proposals, we estimated separate costs of fixed-rate and index-linked embedded debt. We estimated the nominal cost of fixed-rate embedded debt as the sum of:

- the 13.5 year trailing average of the yields on the iBoxx non-financials A- and BBB-rated 10+ years indices; and

- a HAL-specific premium of 8bps calibrated based on a comparison of HAL's Class A spreads at issuance and the contemporaneous spreads on the above iBoxx indices.

9.93 We then deflated this nominal cost by the OBR's March 2022 forecast of RPI inflation for H7.

9.94 We estimated the nominal cost of index-linked embedded debt as the sum of:

- the nominal cost of fixed-rate debt set out above; and
- an index-linked premium of 15bps.

9.95 We then deflated this nominal cost by an estimate of historical long-term RPI inflation expectations of 2.73%.

9.96 We also estimated separate costs of new fixed-rate and new index-linked debt. We estimated the nominal cost of new fixed-rate debt as the sum of:

- the one-month trailing average of yields on the iBoxx non-financials BBB-rated 10+ years index; and
- the same HAL-specific premium of 8bps as we applied to the cost of embedded debt.

9.97 We then deflated this nominal cost by the OBR's March 2022 forecast of RPI inflation for H7.

9.98 We estimated the nominal cost of new index-linked debt as the sum of:

- the nominal cost of fixed-rate debt set out above; and
- an index-linked premium of 15bps.

9.99 We then deflated this nominal cost an estimate of long-term, forward-looking inflation.

9.100 We weighted the costs of each type of debt by their assumed proportions in each year of H7 to estimate a single cost of debt estimate for H7.

9.101 We applied an additional allowance of 18bps for issuance and liquidity costs. This was comprised of:

- an allowance of 4bps for issuance costs;
- an allowance of 7bps for liquidity costs; and
- an allowance for the cost of funding pandemic-period cash balances of 7bps.

Summary of stakeholders' views

HAL

9.102 HAL raised a significant number of concerns regarding our cost of debt approach.

Cost of embedded debt

Averaging period

9.103 HAL disagreed with our use of a 13.5-year lookback period for the cost of embedded debt and considered that we should instead use a 20-year lookback period in line with HAL's actual average tenor at issuance.

9.104 HAL made the following observations in support of this position:

- our proposed lookback period ignores HAL's actual average tenor at issuance;
- a cut-off date of 2008 ignores debt issued prior to this period;
- we had provided no calculation in support of our proposed lookback period;
- our own weighting of Class A bonds, as set out in Table 9.6 of the Final Proposals, did not support a 13.5 year average;
- the lookback period should be adjusted to account for liquidity facilities; and
- we had not assessed the impacts of our proposed lookback period on the incentives and financial risk of Heathrow.

HAL-specific premium

9.105 HAL made the following observations in respect of our estimate of the HAL-specific premium within the cost of embedded debt:

- we have significantly underestimated swap costs;
- we have not compared HAL's bond with indices of the correct tenor; and
- our proposed estimate of the HAL-specific premium (8bps) is not consistent with long-run evidence from the secondary market spreads of Heathrow's Class A bonds over the iBoxx.

Cost of new debt

9.106 HAL made the following observations in respect of our estimate of the cost of new debt:

- we should rely on traded spreads on Heathrow bonds over the iBoxx A rated index;
- it is not correct to assume that elevated spreads during the pandemic were solely driven by the pandemic;

- we should include a New Issue Premium over our estimated spreads;
- there is a risk that spreads increase again in the event of a pandemic recurrence; and
- we should update our estimate to reflect the most recent data.

Issuance and liquidity costs

9.107 HAL made comments in respect of each element of our issuance and liquidity cost allowance.

Issuance costs

9.108 HAL stated that the Europe Economics estimate (on which our estimate of 4bps is based) did not include the costs associated with maintaining a debt platform, such as rating agency fees, trustee fees, and the costs required to update paperwork periodically to reflect external impacts such as changes to accounting standards.

9.109 It also highlighted that Ofgem estimated transaction costs for energy companies of 6bps in the context of RIIO-ED2.

Base liquidity costs

9.110 HAL made the following observations in respect of our base liquidity allowance:

- the requirement for “adequate” liquidity from 2024 onwards is not consistent with the requirements specified in Heathrow’s licence for availability of two years financial resources;
- the capex liquidity requirement is less than the capex assumed in Final Proposals;
- the opening debt of the notional company in our calculation of the base liquidity allowance has been underestimated, since it excludes expenditure associated with expansion from its assessment of debt; and
- we have not included any allowance for some of the base liquidity being provided by cash balances.

Pandemic liquidity costs

9.111 In respect of the pandemic liquidity allowance, HAL considered that:

- our estimate of HAL's liquidity requirement understated HAL's actual cash buffer, and we had not presented evidence to suggest that HAL was being too cautious in practice;
- our estmate of the maturing debt in each year is too low since we had excluded expenditure related to expansion from our opening debt;

- our assumed debt service costs are too low in each year as a result of applying interest rates that HAL considers are too low;
- our estimated FFO is incorrect for 2020 and 2021;
- our capex estimate for 2022 is too low;
- our approach makes no allowance for the additional liquidity required for potential downside situations; and
- HAL's actual cash balance will be maintained during 2022 and then unwound during 2023, resulting in an effective duration of 18 months (compared with our assumption of 12 months).

Airline stakeholders

9.112 CEPA made comments on several aspects of our cost of debt estimate.

Cost of embedded debt

General comments

9.113 CEPA welcomed the reduction from a collapsing 20-year average to a fixed 13.5-year average, but noted in principle that a collapsing average would be more representative of the notional company's embedded debt costs.

9.114 It also requested confirmation that our cost of embedded debt allowance does not reflect the reprofiling of interest costs from H7 into the pandemic period that HAL has conducted using swap instruments.

Index-linked instruments

9.115 CEPA said that our estimate of long-term RPI inflation expectations of 2.50% is incompatible with market evidence and understates actual inflation expectations prior to this date. For our estimate of pre-2014 inflation, CEPA stated that 10-year breakeven inflation estimates would produce a higher estimate of inflation.

9.116 It also reiterated its view that we failed to identify a balanced, holistic view of the index-linked premium, since we have not used a market-based inflation measure to deflate nominal yields.

HAL-specific premium

9.117 In relation to our inclusion of a HAL-specific premium CEPA:

- noted that the CMA has previously ruled against the application of a "halo effect" by Ofwat at PR19. It further noted that our sample of bonds is smaller than the CMA's sample at PR19, since it only includes a single company rather than bonds from several companies;

- highlighted our previous statement that data from during the pandemic does not represent a useful benchmark for the H7 period when estimating the cost of new debt. It considered that this is inconsistent with the inclusion of a large amount of debt issued during the pandemic when estimating the HAL-specific premium within the cost of embedded debt;
- noted that there is significant variation in spreads across individual bonds, ranging from -134bps to +81bps. It highlighted that approximately two-thirds of debt instruments in our sample of bonds exhibit a positive halo effect and that an unweighted average suggests a positive halo effect[9] of 7bps. It also noted that if the pandemic period is excluded, our sample of bonds implies a positive halo effect of 9-23bps;
- highlighted what it suggested may be an error in our sample or methodology, insofar as it observed two bonds that exhibit different halo effects despite being issued on the same day; and
- said that the choice of benchmark has not been explained, for example, we used 10-year maturity debt using 7-10 year indices, rather than 10-15 year indices, without justification for that choice.

9.118 In relation to our cost of embedded debt estimate Alix Partners, on behalf of airlines:

- disagreed with our proposed lookback period for the iBoxx index, noting that a calculation based on the data in Table 9.6 suggests an average age of between 7.4-11.4 years with a mid-point of 9.4 years (compared with 13.5 years used for Final Proposals);
- challenged our use of a fixed trailing average, since it considered that a collapsing average is the correct method to capturing the continual maturing process of embedded debt; and
- said that the inclusion of a HAL-specific premium restored the link between HAL's actual cost of debt and undermines the efficient issuance cost incentive properties of using the iBoxx indices rather than HAL's actual cost of debt.

Cost of new debt

9.119 In relation to the cost of new debt CEPA noted:

- Heathrow still has a senior debt credit rating of A- from Fitch and that it is unclear that a BBB index is required to reflect debt costs over the five years of H7;

[9] That is, a smaller spread than is seen in the reference iBoxx index.

- our estimate of long-term RPI inflation expectations of 2.17% in H7 is incompatible with market evidence and understates actual inflation expectations. CEPA supported this statement by noting that the use of 10-year breakeven inflation estimates would produce a higher figure; and
- its concerns regarding the HAL-specific premium within the cost of embedded debt also apply to the cost of new debt.

Issuance and liquidity costs

9.120 CEPA indicated that it was unclear of the basis for including an allowance for funding cash balances accumulated during that pandemic period in the context of setting a forward-looking cost of capital. It therefore suggested that this allowance should not be allowed.

Our views

Cost of embedded debt

Averaging period

9.121 We continue to consider that 13.5 years represents a reasonable lookback period for estimating the cost of embedded debt because:

- using our 13.5 year averaging period produces a cost of debt allowance that is roughly in line with HAL's actual average yield at issuance across its Class A bonds. This is important, because it implies that we are not unduly over- or under-remunerating HAL's efficient cost of debt. We note that our approach to this matter is consistent with both the approach adopted by the CMA in its PR19 determination, and by Ofgem in its RIIO-T2/GD2 and RIIO-ED2 determinations; and
- a notional company that issued debt evenly from 2008 onwards at a slight premium to the relevant iBoxx indices represents a reasonable benchmark for HAL.

9.122 The figures set out in Table 9.6 of the Final Proposals were intended as an illustrative example of why a 20-year trailing average would assign excessive weight to earlier years and should not be regarded as a precise calibration of the trailing average period used.

9.123 We consider that we should continue to use a fixed lookback period, not a collapsing average. This is because we assume that the notional entity has historically issued, and will continue to issue, long-term debt with an average tenor of 20 years. Hence, bonds issued from 2008 would remain outstanding throughout the H7 period. By contrast, a collapsing average period would imply that these bonds would be assumed to mature during H7.

9.124 We disagree that the lookback period should be adjusted to reflect the tenor of liquidity facilities, since these are remunerated through a separate allowance and are hence not relevant to the cost of embedded debt. We note that the tenor of these facilities is generally significantly shorter than HAL's Class A bonds. As such, if we were to reflect liquidity facilities, this would result in a shorter lookback period, contrary to HAL's proposals for a longer period.

9.125 With respect to index-linked debt, we have assumed that the notional company issues index-linked bonds of comparable average tenor at issuance to its fixed-rate bonds, at 20 years. We do not assume that the notional company has issued any swaps. We are unclear why accretions on index-linked bonds would materially lengthen the appropriate averaging period, since they do not affect the average tenor or issuance profile of the underlying instruments.

9.126 We do not expect that our proposed lookback period will in any way affect HAL's incentives or financial risk exposure relative to HAL's proposed approach, other than reducing the magnitude of the cost of embedded debt allowance.

HAL-specific premium

Precedent

9.127 We are aware that the CMA decided not to apply a halo effect in its PR19 determination. However, we note that Ofgem has applied a premium to broader corporate bonds indices in its recent cost of debt determination for RIIO-ED2.

9.128 More generally, we consider that it is important that the cost of embedded debt allowance appropriately remunerates efficiently-incurred debt costs, to ensure we have regard to the need for HAL to finance its functions, and that the application of a HAL-specific premium is appropriate in this context.

Estimation – sample variance

9.129 We are aware that the yield at issuance on HAL's Class A bonds has varied significantly over time relative to the relevant iBoxx indices.

9.130 The issuance yields on these bonds tends to be lower than the iBoxx during "benign" periods, and higher during periods of market stress such as the 2008 financial crisis and the covid-19 pandemic.

9.131 We consider that it is important to take account of debt raised in both benign and stressed periods, since the notional company would have historically needed to issue bonds during both periods. This contrasts with the cost of new debt, where we must take a view regarding the likely conditions that will prevail in H7.

9.132 In light of the above, the results presented by CEPA regarding different subsets and averages within our sample are unsurprising. Most of the period since 2008 has been benign, but the relative spread of HAL's bonds to the broader market has varied considerably.

9.133 We are aware that two of the bonds we have considered were issued on the same day but exhibit different halo effects. This appears to be explained by the fact that these bonds are of different tenor.

Estimation – tenor

9.134 We are satisfied that we have compared Heathrow's bonds with indices of appropriate tenor.

Estimation – currency swaps

9.135 We previously requested data on Heathrow 's actual swap costs (together with supporting information that would enable us to scrutinise this data on behalf of consumers) on multiple occassions prior to the Final Proposals, but these were not provided. Moreover, the swap costs that have now been provided by HAL have been submitted in a format that does not permit any interrogation of their accuracy, efficiency or completeness. Bearing these factors in mind, the evidence provided by HAL is not sufficiently persuasive to warrant a change in our approach.

Yields at issuance vs secondary market spreads

9.136 We explained in paragraph 9.335 of the Final Proposals why we do not consider that secondary market yields represent an appropriate basis of estimation for the HAL-specific premium.

Actual vs benchmark cost of debt

9.137 We agree that, in principle, there is a possibility that basing the cost of debt allowance on a component of HAL's actual cost of debt could slightly dampen HAL's incentives to raise debt efficiently. However, the size of this effect should not be overstated. HAL will face an exogenously determined allowance for new debt costs throughout the H7 period and will bear any under- or out-performance against that allowance during the five-year period. As such, it has a clear incentive to issue debt at an efficient cost.

9.138 We also consider that that it is necessary to ensure that our cost of debt allowance appropriately remunerates HAL's efficiently-incurred debt costs. Since we lack robust alternative market benchmarks with which we can estimate a fully independent cost of debt allowance, it is reasonable to have regard to HAL's actual investment grade debt costs.

9.139 However, we note the following aspects of our approach that protect consumers:

- we based our assessment on only a subset of HAL's debt, namely its Class A bonds. This protects consumers from the effects of higher leverage associated with HAL's Class B and subordinated borrowings; and
- we benchmarked HAL's actual debt costs using broader market indices, as a sense check with respect to these costs.

9.140 These checks imply that HAL does not have assurance that the entirety of its actual debt costs will be passed through to consumers. This approach is broadly in line with that adopted by the CMA in its PR19 determination. We consider that this is consistent with both protecting consumers and having regard to the need to secure that the notional company is able to finance its activities.

Index-linked debt

9.141 We explained why we do not agree with the use of breakeven inflation to deflate nominal yields in 9.207-9.208 of the Final Proposals. We are, therefore, satisfied that our assumption with respect to historical inflation expectations is reasonable.

9.142 For the same reason, we consider that our assumption of a 15bps index-linked premium is reasonable.

Swap reprofiling

9.143 We can confirm that we have not reflected the impact of reprofiling interest costs using swaps in our estimate of the cost of embedded debt.

Cost of new debt

Credit rating of relevant index

9.144 We have considered CEPA's feedback and concluded that we agree that basing our allowance for the cost of new debt on BBB-rated bond indices is unduly pessimistic and inconsistent with the evidence in respect of our financeability assessment set out in chapter 13 (Calculating the price cap and financeability). This demonstrates that the notional company should be able to issue debt at or above BBB+/Baa1. Having reflected further on these matters, we are of the view that, if we were to retain the approach in the Final Proposals, it would create an inconsistency, be unduly conservative and not be consistent with protecting the interests of consumers. We therefore propose to base our assessment, where appropriate, on the average of the A-rated and BBB-rated iBoxx indices.

Forward-looking inflation expectations

9.145 We explained why we do not agree with the use of breakeven inflation to deflate nominal yields in 9.207-9.208 of the Final Proposals. We are, therefore, satisfied that our assumption with respect to forward-looking inflation expectations is reasonable.

Yields at issuance vs secondary market spreads

9.146 This issue is considered further below, the context of the updated market data. Overall, we see merit in the use of secondary market data where there are an insufficient number of recent bond issuances on which an estimate of the cost of new debt can be based.

Causal link between the pandemic and elevated spreads

9.147 We consider that it was reasonable for us to have assumed that data from the pandemic period does not represent a useful benchmark for the H7 period. The circumstances that underpinned the observed issuance spreads were transitory and will not be repeated during H7. As such, we retain our view that data from during the pandemic period should not be used to estimate the cost of new debt during H7.

New Issue Premium

9.148 The use of a New Issue Premium is considered further below, in the context of our update for recent market data. Overall, we consider that it may be reasonable to apply a New Issue Premium when the cost of new debt estimate is based on secondary market yields, but not when it is based on yields at issuance.

Risk of future pandemics

9.149 We do not consider that the risk of future pandemics is likely to have a significant impact on the overall cost of new debt. This can be illustrated based on a high-level example:

- HAL estimated that the pandemic resulted in an average increase in the spreads on HAL's Class A debt over the iBoxx index of 0.62%[10]; and
- we estimate that the annual probability of a pandemic-like event is 3.5%.

9.150 These figures imply a probability-adjusted increase in the spread of HAL debt over the iBoxx of only 2bps. We consider that this is within the margin of error for estimating the cost of new debt, and does not warrant an update to the Final Proposals.

Issuance and liquidity costs

Issuance costs

Europe Economics report

9.151 The original data underpinning the Europe Economics report were derived from a PwC report for Ofwat, which was itself based on companies' own submissions to Ofwat in respect of the issuance costs they had incurred. Neither the Europe Economics report nor the PwC report explicitly commented on the sub-categories of issuance cost to which HAL refers. However, given that the purpose of the water companies' submissions was to inform the scale of allowance that they would be set, it is reasonable to assume that these submitted costs are likely to be comprehensive. We therefore see no basis for a

[10] See 7.13.8 of HAL's response to CAP2265.

further adjustment to include the sub-categories of costs HAL has highlighted as this is likely to double count costs already included in our proposed estimate.

Ofgem RIIO-ED2 determination

9.152 We note Ofgem's recent Final Proposals for its RIIO-ED2 price controls regarding issuance costs. However, we do not consider this to be sufficiently materially different from our own determination to warrant a change in approach. Moreover, we note that the average electricity transmission and gas distribution network is considerably smaller than HAL and, with the exception of National Grid Electricity Transmission plc, the other electricity transmission and gas distribution networks all have opening RAVs less than £6 billion. This might explain their larger proportional issuance costs.

Base liquidity costs

Relevance of the Licence

9.153 We disagree with HAL's interpretation of the licence condition to which it refers: this condition requires the Directors to provide a statement confirming that they expect to have available financial resources for a period of two years, whether from retaining earnings, current or future liquidity facilities or any other sources. It does not constitute a requirement to procure, in advance, committed liquidity necessary to cover funding requirements for the entire two year period. As such, we disagree with HAL that our approach to estimating base liquidity is inconsistent with the obligation in the Licence to maintain sufficient resources.

Capex liquidity requirement

9.154 Our estimate of the capex liquidity requirement was an approximation of peak capex under our proposed capex baseline. We do not consider this to be an error. Corporate entities (including HAL) do not continuously calibrate the size of their liquidity facilities to match peak capex in future years with the degree of precision HAL is implying. Regardless, we consider that our allowance is consistent with the provision of adequate liquidity. This is illustrated by the fact that if we had used the exact figure from our capex baseline, this would not have changed our total issuance and liquidity cost allowance to within one decimal place.

Relevance of expansion

9.155 We do not consider it necessary to take account of expenditure that is not included in the capex baseline such as expansion costs.

Base liquidity provided via cash balances

9.156 If providing base liquidity through cash balances is more expensive than obtaining a liquidity facility, we would expect HAL to do the latter. Doing the former would consitute inefficient financial management and the cost of this inefficiency should not be recovered from consumers. Moreover, HAL has informed us that it does indeed have a committed facility in place.

Pandemic liquidity costs

Appropriateness of funding pandemic-related cash balances

9.157 We continue to view funding of pandemic-related cash balances as appropriate. Although these cash balances were accumulated prior to H7, we consider that the notional company would retain these cash balances in the early years of H7. The funding of these cash balances is, therefore, analogous to the cost of embedded debt: the relevant liabilities were issued in the past, but we consider it appropriate to fund their ongoing costs in line with our duty to have regard to the need to secure that the notional company is able to finance its activities.

Relevance of HAL's actual cash buffer

9.158 We do not consider that HAL's actual cash buffer represents an appropriate benchmark for our assessment. Our analysis of liquidity costs is carried out on the basis of a notional company facing similar circumstances to HAL. As such, it is not necessarily guided by HAL's actual decisions and behaviour. We consider that our estimated cash requirement was reasonable and efficient under the circumstances and sufficient to satisfy credit rating requirements at that time.

9.159 Similarly, we consider that our notional schedule for unwinding pandemic-period cash balances is reasonable: we see no reason why the notional company could not start unwinding cash balances from the outset of H7.

Relevance of expansion

9.160 For the reasons explained previously, we do not consider that it was an error to exclude expansion-related costs from our allowance for liquidity costs.

Numerical assumptions

9.161 We disagree that the incorrect interest rate was applied or that our debt service cost assumption was incorrect at the time it was published. However, we have now updated this estimate in light of new market data, which is discussed below.

9.162 We agree with HAL that the:

- FFO figures used in Table 9.18 of the Final Proposals were incorrectly transposed from the PCM. We used pre-financing cashflows in place of Standard & Poors' FFO figures. The correct FFO figure for 2021 is -£441 million. We use this figure to estimate our updated pandemic liquidity cost; and

- capex figures used in Table 9.18 of the Final Proposals were incorrectly transposed from the PCM. The correct figures should have been £284 million and £404 million for 2021 and 2022 respectively. However, correcting these figures results in a trivial change to the assumed total cash drawdown in 2021, which increases by only £5 million. This, in turn, does not affect the size of the pandemic liquidity cost allowance to within one decimal place. We therefore do not consider this to be a material error. Regardless, we propose to use the correct figure in our updated estimate.

Allowance for downside scenarios

9.163 We have sought to remunerate reasonable liquidity costs guided by evidence, for example, from credit rating agencies, regarding the scale of liquidity that might reasonably be required by a notional airport operator facing similar circumstances to HAL. We do not consider that it is necessary, appropriate or in the interests of consumers for us to provide an allowance for liquidity that is sufficient to cover every conceivable downside scenario.

Updating for recent market developments

9.164 Corporate bond yields and spreads have increased significantly since we published the Final Proposals. In addition, as indicated above, forecasts of RPI inflation have shifted considerably: increasing in 2022 and 2023, and falling in 2024-26.[11] We separately consider the impact of these developments on the cost of embedded and new debt below.

Cost of embedded debt

9.165 These developments do not affect our estimate of the nominal cost of embedded debt since this is estimated based on data up to the end of 2021. However, the updated RPI inflation data does affect the RPI-real cost of embedded debt. The impact of higher inflation on the RPI-real cost of embedded fixed-rate debt for the notional company is set out in the table below.

[11] Matters relating to the overall treatment of inflation have been dealt with above in paragraphs 1.19 to 1.26.

Table 9.3: Updated cost of embedded fixed-rate debt in H7

	2022	2023	2024	2025	2026
Nominal cost of embedded fixed-rate debt	4.39	5.98	5.98	5.98	5.98
RPI-real cost of embedded fixed-rate debt (March 2022 OBR RPI forecasts)	-5.08	-1.21	1.88	1.68	1.48
RPI-real cost of embedded fixed-rate debt (November 2022 OBR RPI forecasts)	-6.61	-5.85	2.68	4.64	3.19

Source: OBR

9.166 The November 2022 OBR forecasts imply a weighted average RPI-real cost of embedded fixed-rate debt of -0.80%, compared with -0.45% based on the March 2022 OBR forecasts.

9.167 The above developments do not affect our estimate of the RPI-real cost of embedded index-linked debt since this is based on interest rate and inflation data that precedes 2022. As such, the weighted average RPI-real cost of embedded index-linked debt remains unchanged at 1.60%.

9.168 Overall, the updated market data implies an RPI-real cost of embedded debt of -0.08%, compared with 0.17% in the Final Proposals.

Cost of new debt

9.169 In the Final Proposals, we considered that it was not appropriate to rely on data from during the pandemic period to estimate the cost of new debt, since we did not consider that this data was a reliable predictor of conditions during H7. This remains our position.

9.170 However, we now have access to data for the majority of 2022, which comprises the first year of H7. Moreover, there is no reason to consider that the pandemic has influenced HAL's cost of debt in 2022, and no obvious indication that the currently elevated corporate bond yields will abate over the remainder of H7.

9.171 We have therefore updated our estimate of the cost of new debt to reflect market data in 2022.

9.172 We have considered two points of reference for estimating the cost of new debt:

- the yield at issuance on Class A debt issued by HAL during 2022. We note that HAL issued two such bonds in May and August respectively; and
- secondary market yields on Class A bonds issued by HAL. We have data on ten such bonds.

9.173 We do not consider that the first reference point would be appropriate. Firstly, it would not be robust to base our assessment solely on two instruments.

Secondly, they are unlikely to reflect the latest market data, since both real and nominal interest rates have increased markedly since these bonds were issued.

9.174 We have, therefore, based our assessment on secondary market yields on Class A bonds issued by Heathrow.

9.175 For 2022, we have estimated the nominal cost of new fixed-rate debt based on the average secondary market yields on Heathrow's Class A bonds between 1st January and 17th November, which was 4.24%.

9.176 The use of secondary market yields means that we must also consider whether it is appropriate to apply a New Issue Premium. We previously indicated that we had not seen any evidence on which we could base such a premium. We have, therefore, carried out our own assessment to ascertain whether such a premium might exist; that is, whether newly issued bonds tend to exhibit higher yields compared with secondary market yields for "on the run" securities. Our analysis suggests that there is some evidence that newly issued bonds exhibit a premium to secondary market yields, though this varies significantly between companies and over time. For example, GlobalCapital data suggests that the New Issue Premium varied from 0bps to 43bps in 2022 with a median value of 16bps, depending on the week of issue. Overall, we consider that the evidence is consistent with HAL's proposed New Issue Premium of 10-20bps. We therefore apply a New Issue Premium of 15bps in line with the midpoint of HAL's range. This implies a nominal cost of new fixed-rate debt for 2022 of 4.39%.

9.177 For 2023 onwards, we have forecast the cost of new debt as the sum of:

- the average yield on the sterling non-financials 10+ years A and BBB-rated indices in the month to 17th November 2022 of 5.71%;
- a Heathrow-specific premium, based on the weighted average spread of Heathrow's bonds over the sterling non-financials 10+ years A and BBB-rated indices during 2022 of 11bps; and
- a New Issue Premium of 15bps.

9.178 This implies a nominal cost of new fixed-rate debt of 5.98%.

9.179 For the cost of new fixed-rate debt, we continue to consider it appropriate to deflate these yields by OBR's RPI inflation forecasts as set out in its November 2022 Economic and Fiscal Outlook. The resulting RPI-real cost of new fixed-rate debt is set out below.

Table 9.4: Updated cost of new fixed-rate debt in H7

	2022	2023	2024	2025	2026
Nominal cost of new fixed-rate debt (in-year, %)	4.39	5.98	5.98	5.98	5.98
OBR November 2022 RPI forecast (%)	11.60	10.70	1.50	-0.40	1.00
RPI-real cost of new fixed-rate debt (in-year, %)	-6.46	-4.26	4.41	6.40	4.93

Source: OBR

9.180 This implies a weighted average RPI-real cost of new fixed-rate debt of 4.43%, compared with 0.66% based on the March 2022 OBR forecasts.

9.181 For the cost of new index-linked debt, we continue to consider it appropriate to apply an index-linked premium of 15bps. We then deflate these values by our estimate of long-term, forward-looking inflation. The resulting RPI-real cost of new index-linked debt is set out below.

Table 9.5: Updated cost of new index-linked debt in H7

	2022	2023	2024	2025	2026	Average
Nominal cost of new fixed-rate debt (%)	4.39	5.98	5.98	5.98	5.98	5.66
Long-term RPI inflation expectations in H7 (%)	2.84	2.36	1.93	1.95	2.07	2.23
Index-linked premium (%)	0.15	0.15	0.15	0.15	0.15	0.15
RPI-real cost of new index-linked debt (%, in-year)	1.65	3.69	4.13	4.10	3.98	3.51
RPI-real cost of new index-linked debt (%, cumulative)	1.65	3.01	3.62	3.88	3.90	3.21

Source: OBR

9.182 This implies a weighted average RPI-real cost of new index-linked debt of 3.73%, compared with 1.42% based on the March 2022 OBR forecasts.

9.183 This results in an overall RPI-real cost of new debt of 4.22% for H7, compared with 0.89% in the Final Proposals.

9.184 As signalled in our Initial and Final Proposals, we intend to introduce a mechanism that will adjust HAL's opening RAB for H8 to reflect the difference between our cost of new debt allowance and the out-turn value of the indices on which the allowance is based.

9.185 We will make certain amendments to the mechanism to reflect the approach to the cost of new debt as set out above. Specifically, we will:

- exclude 2022 from the scope of the true-up mechanism, since we have the benefit of actual data on HAL's bonds for this period;
- base the allowance on the average of the A- and BBB-rated 10+ year non-financials iBoxx indices, rather than solely the BBB-rated 10+ year non-financials iBoxx index as we set out at Final Proposals;
- update the spread over the reference indices to 26bps from 8bps at Final Proposals; and
- update the inputs for the cost of embedded debt, assumed proportions of each type of debt, issuance and liquidity costs, taxation, the cost of equity, inflation and RAB to reflect the latest values as set out in this document.

9.186 An updated working model has been published alongside these proposals that illustrates how this mechanism will function in practice.[12]

Issuance and liquidity costs

9.187 We have decided to retain the estimate of issuance costs (4bps) and of base liquidity costs (7bps) used for the Final Proposals.

9.188 We have decided to update our estimate of pandemic liquidity costs to correct for the incorrectly transcribed capex and FFO figures for 2021.

9.189 We have also have decided to revise our pandemic liquidity cost estimate to reflect the impact of our revised cost of new debt allowance.

9.190 These changes collectively result in an increase in the pandemic liquidity cost allowance from 7bps to 14bps, and the overall issuance and liquidity cost allowance from 18bps to 25bps.

Choice of a point estimate

9.191 Estimation of WACC parameters tends to involve a degree of uncertainty. For this reason, it is an accepted regulatory approach to estimate a range for each parameter and then select a point estimate from the implied range for the WACC.

9.192 The choice of point estimate should balance the risk of setting the WACC too high, leading to consumers paying too much; and setting the WACC too low, and potentially undermining long-term financeability and/or incentives for investment.

[12] The working model has been published on the CAA website alongside this document.

The Final Proposals

9.193 For the Final Proposals, we adopted the midpoint of the WACC range as our point estimate. In doing so, we balanced two considerations.

- **Welfare effects**: we recognised the importance of the WACC in ensuring that HAL faces appropriate incentives to invest and that this may warrant a degree of "aiming up" on the WACC. At the same time, we noted that we have put in place other mechanisms to encourage investment, such as our capex incentive mechanism, which means that we do not need to rely exclusively on the WACC to ensure appropriate investment incentives.
- **Parameter asymmetry**: we noted that our estimate of the TMR is likely to be upwardly skewed, for two reasons. Firstly, because RPI inflation in H7 is forecast to be considerably higher than its long-term average, which might imply a lower RPI-real TMR and, secondly, because interest rates were low relative to their long-term average, which might have led to a relatively high estimate of the equity risk premium.

Summary of stakeholders' views

HAL

9.194 HAL made the following comments regarding our choice of point estimate:

- in its PR19 determination, the CMA said it was appropriate to adopt a point estimate in the upper half of the range;
- we did not give due consideration to Oxera's analysis of the appropriate point estimate in the Final Proposals;
- the use of a midpoint is inconsistent with the enduring risk and uncertainty about passenger numbers in H7;
- the traffic forecast is asymmetric due to capacity constraint in last two years of H7; and
- the presence of a congestion premium warrants a point estimate in the upper half of the range.

Airline stakeholders

9.195 Alix Partners, on behalf of the airlines, suggested that in the context of H7 it is clear that affordable prices are the principal concern, as the aviation sector recovers from the pandemic.

9.196 It also recommended that we aimed down in order to compensate for information asymmetries that exist between HAL and the CAA.

Our views

Affordability

9.197 We have carefully considered affordability concerns in arriving at our point estimate for the WACC. However, we disagree with Alix Partners that affordable prices are the "principal" concern, in the sense that it overrides all other concerns.

9.198 Our position with respect to welfare effects is itself grounded in the ultimate impact on the interests of consumers. Although lower airport charges could benefit consumers in the short-term, to the extent that they lead to lower investment in the future, this could have a disproportionate detrimental impact on future consumers. This is because the foregone investment would entail loss of consumer surplus that significantly outweighs the savings from lower near-term charges under a range of reasonable assumptions. We consider that the CMA's position at PR19 sets a clear regulatory precedent for this position.

Information asymmetry

9.199 We disagree with Alix Partners that the presence of potential information asymmetries warrants aiming down within the range. We consider that the regulatory precedent is clear in this regard. For example, in the context of its determination of the RIIO-T2/GD2 price control, Ofgem applied an outperformance wedge for essentially the same reason as put forward by Alix Partners. The CMA then found that Ofgem was wrong to apply this wedge in the subsequent appeal of its decision.

CMA PR19 determination

9.200 We are aware of the regulatory precedent to which HAL refers. However, we also note that in the context of the RIIO-GD2/T2 price controls, the CMA found that Ofgem's decision to adopt a point estimate in the middle of its proposed range was not wrong.

Consideration of Oxera’s analysis

9.201 We do not agree that we gave insufficient consideration to Oxera’s analysis. We summarised this analysis in paragraph 9.397 of our Final Proposals. Oxera relied on the proposition that we should set the point estimate for the cost of equity at the 77th percentile of a distribution generated via probabilistic modelling of the underlying parameters. We do not agree with this proposition because we consider that the 77th percentile is an arbitrary threshold, and that it is reasonable for us to apply our regulatory judgement in determining the extent of any aiming up or down.

Traffic uncertainty

9.202 We disagree that risk and uncertainty associated with traffic in H7 warrants aiming up unless it can be demonstrated that the traffic forecasts are skewed or asymmetric.

Impact of capacity constraint

9.203 We agree that traffic forecasts at Heathrow are inherently skewed. However, we have already addressed this inherent asymmetry through the application of the shock factor to the passenger forecast and the asymmetric risk allowance.

Congestion premium

9.204 We disgree with HAL's statement that the level of airport charges does not materially affect consumers. HAL has not provided persuasive evidence in support of this statement, which is also inconsistent with the findings of our 2014 Market Power Determination. We therefore do not agree that the existence of a congestion premium, if one exists, is relevant to the question of setting the point estimate for the WACC.

Updating for recent developments

9.205 The impact of recent market developments on the appropriate choice of point estimate is mixed:

- the risk free rate (as measured by gilt yields and high-quality corporate bonds) has increased significantly, reducing the RPI-real equity risk premium and, by extension, the upwards skew associated with the RPI-real TMR relative to FPs.
- on the other hand, RPI inflation forecasts have increased significantly since FPs, which might imply a greater skew than was previously the case.

9.206 The evidence in respect of investment incentives is largely unchanged.

9.207 Overall, for the purposes of this analysis, we consider that choosing a point estimate for the WACC at the midpoint of our proposed range remains appropriate. Although we have identified factors that support both a higher and a lower point estimate, we consider that the evidence is broadly balanced.

The CAA’s Final Decision and implementation

9.208 The Table below sets out the WACC estimate that results from taking account of recent market developments:

Table 9.6: Impact of market developments on the Final Proposals WACC

	Final Decision		H7 Final Proposals	
	Hi	Lo	Hi	Lo
Gearing	60%	60%	60%	60%
Risk free rate	0.59%	0.59%	-2.03%	-2.03%
TMR	5.85%	5.85%	5.85%	5.85%
ERP	5.26%	5.26%	7.88%	7.88%
Asset beta	0.62	0.44	0.62	0.44
Debt beta	0.05	0.1	0.05	0.1
Equity beta	1.47	0.95	1.47	0.95
Post-tax cost of equity	**8.32%**	**5.59%**	**9.56%**	**5.45%**
Cost of new debt	4.22%	4.22%	0.89%	0.89%
Cost of embedded debt	-0.08%	-0.08%	0.17%	0.17%
Proportion of new debt	11.61%	11.61%	11.61%	11.61%
Issuance and liquidity costs	0.25%	0.25%	0.18%	0.18%
Cost of debt	**0.67%**	**0.67%**	**0.43%**	**0.43%**
Vanilla WACC	**3.73%**	**2.64%**	**4.08%**	**2.44%**
Point estimate	**3.18%**		**3.26%**	

Source: CAA

9.209 Although there are non-trivial impacts on individual WACC parameters, and to the cost of debt and cost of equity, the overall impact on the WACC is limited.

9.210 The cost of equity has fallen, principally due to the increase in the risk free rate together with our retention of the PR19 TMR estimate.

9.211 By contrast, the cost of debt has risen in line with rising bond yields that have outstripped increases in RPI inflation.

9.212 The net impact is a reduction in the WACC of 7bps from 3.26% to 3.18%. We have decided to apply the latter value in our Final Decision. We consider that, for the reasons set out above, adopting a figure of 3.18% for the WACC in the calculation of the H7 price control is appropriate to further the interests of consumers and has appropriate regard to:

- the need to secure that the notional company will be able to finance its activities;
- the need to secure that the notional company can finance the investments it needs to make to meet all reasonable demands for airport operation services at Heathrow airport; and
- does so by promoting economical and efficienct financing.

9.213 Our H7 WACC estimate is above the corresponding values set out in recent determinations for regulated network utilities. This is driven by a higher cost of equity, principally reflecting HAL's exposure to demand risk. Our cost of debt estimate is somewhat below the corresponding values for recent determinations for regulated network utilities. This is principally due to differences in the treatment of inflation, together with exceptionally high inflation in the H7 period. Specifically, Ofgem and Ofwat have used a long-term estimate of inflation to deflate nominal yields, whereas we have used forward-looking forecasts produced by the OBR. We consider that it is reasonable for us to have adopted a different approach to Ofgem and Ofwat for the reasons set out in paragraphs 9.20-9.22 above. We therefore consider that our WACC estimate is reasonable when viewed relative to corresponding values set out in recent determinations for regulated network utilities.

9.214 Our decision on the WACC is used in chapter 13 (Calculating the price cap and financeability) in conjunction with HAL's RAB to derive an allowance for allowed returns, which is a key building block in our calculation of HAL's price control revenue.

Chapter 10
The H7 Regulatory Asset Base

Introduction

10.1 The regulatory asset base ("RAB") reflects the value of the investments that HAL has made in the regulated business. We set price controls on the basis that HAL can expect (but does not have a guarantee) that it will:

- recover its efficiently incurred investments over the life of the relevant assets, through the allowances we make for regulatory depreciation of the RAB; and
- earn a return on the investment each year on the undepreciated part of the investment that remains in the RAB.

10.2 The use of a RAB helps us to further the interests of consumers, since it is one of the means by which we have regard to the need to secure that HAL can finance its activities by facilitating the financing of new investment.

10.3 This chapter:

- sets out how we calculated the H7 opening RAB used in the Final Proposals;
- summarises stakeholder views and our responses to those views; and
- discusses the extent to which recent market developments affect our H7 RAB calculations.

10.4 It concludes by setting out our final decision for the H7 opening RAB.

Final Proposals

10.5 In the Final Proposals, we said that we would apply the £300 million RAB adjustment that we announced in the April 2021 RAB Adjustment Decision.

10.6 We then set out our calculation of the opening RAB for H7 based on a roll-forward of the Q6 opening RAB, including the application of an end-of-period adjustment which reflected our proposed RAB adjustment.

Summary of stakeholders' views

HAL

10.7 Below we provide a brief overview of:

- the comments made by HAL in its main response;

- the comments from HAL's legal advisors, Towerhouse LLP, which were set out in a legal annex to HAL's response; and
- comments made by KPMG in a further report commissioned and provided by HAL as part of its response.

Comments made by HAL in its main response

Legitimate expectations

10.8 HAL has reiterated its view that it had a legitimate expectation that we would compensate HAL for losses it incurred during the pandemic, and challenged various statements made in the Final Proposals. In summary HAL:

- expressed a view that we had selectively quoted statements by the Competition Commission ("CC") in the context of the Q5 and Q6 price controls, which did not faithfully represent the CC's view on this subject;
- stated that we had attempted to characterise the pandemic as a business-as-usual risk, when in fact it was catastrophic in nature. It further stated that the CC's Q5 decision set out an expectation that we would intervene in the event of such catastrophic events and that, by applying the CC's estimate of the asset beta in our Q5 and Q6 reviews, we effectively committed to intervening in a similar manner;
- highlighted certain statements that we made at Q6, from which it inferred that we had committed to reopening the price control in the event of lower than expected traffic volumes. For example, it highlighted our statement that "the ability of a licensing regime to revisit the price control if key assumptions, such as traffic, are significantly worse than the forecast, could be a credit strength";[13]
- expressed the view that the statements by the CC in the context of the Q5 determination do not deal with the loss of return on the RAB under exceptional circumstances where this is unrelated to HAL's own performance; and
- considered that our Q6 determination gave rise to a legitimate expectation of intervention because we did not make a specific allowance for covid-type shocks and because we dismissed HAL's request for a formal reopener mechanism and *ex ante* allowances at Q6 in favour of a flexible licence-based regime.

[13] CAP1151, paragraph I29.

Retrospective nature of losses

10.9 HAL disagreed with our view that providing a RAB adjustment in the context of the H7 price control determination would constitute retrospective compensation of sunk costs, and suggested:

- a RAB adjustment would not have been retrospective had it been applied when HAL originally requested it;
- that we did not carry out any forward-looking financeability assessment at the point when the request was submitted to understand whether action was required; and
- that we continue to inappropriately rely on the observation that Heathrow has continued to be operational and therefore justify that no further intervention is necessary (beyond the intervention we made as part of the April 2021 RAB Adjustment Decision).

Financeability

10.10 HAL challenged our view of the relationship between the RAB adjustment and its financeability. It stated that:

- the adjustment we applied in the April 2021 RAB Adjustment Decision was based on targeting gearing of no more than 69.5% for the notional company, which HAL considered to be arbitrary and not adequately consulted on or explained;
- we wrongly used evidence which states that return of the RAB should be linked to company performance;
- we were clear about the importance of depreciation as a building block in the price control in our Q5 decision;
- HAL's investors have also been clear that return of the RAB is central to their confidence in the regulatory construct;
- we did not consider equity financeability; and
- the Thessaloniki forum supports HAL's proposal for a RAB adjustment.

Consistency between TRS and RAB adjustment

10.11 HAL reiterated its view that our RAB adjustment proposals and our proposed H7 TRS mechanism are inconsistent. In HAL's view, if risk sharing is required to ensure financeability and a "fair bet" for investors in the H7 period, this must also have been the case at the point at which HAL initially submitted its request for a RAB adjustment.

Future capacity requirements

10.12 HAL stated that we have not properly taken account of the effect of our view on the RAB adjustment on future capacity requirements.

Comments set out in legal annex by Towerhouse LLP

10.13 Towerhouse, on behalf of HAL, made a number comments in respect of both the April 2021 RAB Adjustment Decision and our Initial and Final Proposals for H7.

10.14 In respect of the April 2021 RAB Adjustment Decision, Towerhouse suggested that:

- our decision was not properly justified, since it did not take account of all relevant considerations. Towerhouse referred to our statement in the April 2021 RAB Adjustment Decision that we have "not yet arrived at a final view on the evidence submitted"[14] and that "a number of the most important issues that HAL has raised are best considered as part of the H7 price review";
- our decision was reached on the basis of inadequate consultation. Towerhouse referred to the gearing threshold we used to calibrate the RAB adjustment we applied in the April 2021 RAB Adjustment Decision, on which it stated we failed to consult. It further stated that we have still not disclosed the reason for applying this threshold;
- we imposed an unlawful threshold when reaching our decision. It referred to our statement that "there is no compelling case for an immediate adjustment greater than the £300 million"[15] and that "the work we have undertaken does not currently provide a clear case for a [full] RAB adjustment"[16]. It considered that these statements constituted a higher threshold for intervention than implied by our statutory duties;
- the assumptions underpinning our Decision, in particular, traffic forecasts, have already been proven to be incorrect; and
- It was not valid to rely on the April 2021 RAB Adjustment Decision to substantiate our position at Final Proposals.

10.15 In respect of the Initial Proposals and the Final Proposals, Towerhouse suggested that:

- we have not conducted new quantitive analysis of the impact of a further RAB adjustment on HAL's financeability, investment and quality of service;

[14] CAP2140, paragraph C3.

[15] CAP2140, paragraph 4.17.

[16] CAP2140, paragraph 34.

- we have failed to engage with relevant evidence, in particular, the standalone submission by HAL in respect of the RAB adjustment and the KPMG report presented alongside its response to the Initial Proposals;
- we have failed to acknowledge HAL's legitimate expectation for intervention (this is related to views set out by HAL in the main body of its response and summarised below);
- we have not assessed the relevance of capacity expansion; and
- we have failed to have regard to the need to act consistently.

KPMG report

Traffic risk allocation implied by precedent

10.16 The KPMG report provided further analysis in support of HAL's view that statements we have previously made imply a legitimate expectation of intervention in the event of extreme traffic shocks. It inferred from this that the losses resulting from the Covid-19 pandemic should be remunerated through a separate regulatory adjustment (which we presume to be akin to the RAB adjustment that HAL has proposed).

Precedents from other regulated sectors and comparator airports

10.17 KPMG also provided further analysis in support of HAL's view that the position adopted by other regulators and in other sectors implies that losses resulting from the covid-19 pandemic should be remunerated as above.

Risk allocation implied by economic characteristics of infrastructure assets

10.18 KPMG noted certain economic characteristics of infrastructure assets generally, from which it inferred that such assets require mechanisms that limit the extent of demand risk exposure in order to ensure that such assets are able to attract capital.

Financeability

10.19 KPMG has stated that the Q6 price control package was only financeable because investors had an expectation that catastrophic risk would be remunerated.

Airline stakeholders

10.20 AOC/LACC said that it continues to contest the £300 million RAB adjustment, stating that HAL's failure to provide sufficient capacity to meet returning demand after the covid pandemic justified the removal of the adjustment.

10.21 BA reiterated its objection to the RAB adjustment we applied in the April 2021 RAB Adjustment Decision, on the basis that:

- the investment referred to in that decision has not in fact been delivered, there have been delays in re-opening capacity and desired service quality outcomes have not been delivered; and
- incentives will be undermined if HAL is allowed to retain this adjustment if the necessary service quality and terminal capacity is not delivered in 2022.

Our views

10.22 For the reasons we outline below, we continue to view our approach to the RAB adjustment in the Final Proposals as reasonable and appropriate.

Legitimate expectations and precedent

10.23 We continue to disagree that HAL or its investors had a legitimate expectation of any specific intervention in response to the pandemic. We also disagree that regulatory precedent, whether of our own past decisions, the decisions of other UK regulators, or any other examples cited by HAL and its advisors, means that we should apply a further RAB adjustment in H7.

CC Q5 determination

10.24 As a general remark, we note that the relevance of the CC's Q5 determination is limited by the fact that it took place over 15 years ago and has been superseded by our subsequent Q6 determination (which we discuss further below).

10.25 Regardless, we disagree that our choice of quotes from the CC determinations of our Q5 price control was either misleading or unduly selective. On the contrary, we consider that these provided a reasonable representation of the CC's position at each price control.

10.26 We note that KPMG, Towerhouse and HAL's interpretation of the CC's views at Q5 appear to suggest:

- that the CC at Q5 would have viewed the Covid-19 pandemic as a manifestation of "catastrophic risk";
- that the CC at Q5 would have expected us to intervene automatically whenever any catastrophic risk crystallised; and
- that the specific form of intervention that the CC at Q5 would have expected would resemble the specific form of intervention proposed by HAL.

10.27 We consider that there remains significant uncertainty and ambiguity as to how the CC would have viewed the pandemic. It clearly identified that "communicable diseases" are a business risk that HAL was expected to bear in exchange for its allowed return. It also did not provide an exhaustive list of events for which it considered that a differentiated treatment would be warranted. The only basis for HAL and its advisors' first and second statements above is a single paragraph of the CC's Q5 determination in which it refers to "*truly catastrophic*" events being "*outside the framework of economic regulation*", and that it would "*expect that CAA would intervene*" in such circumstances. However, the only example that the CC provides of a "*truly catastrophic*" event is "*terrorist event which rendered much of Heathrow unusable for a significant amount of time*".

10.28 Even if the CC would, hypothetically, have agreed that the pandemic warranted a differentiated treatment compared with business-as-usual risks was warranted, it did not specify what kind of intervention should be applied, beyond stating that "*a recovery plan should be agreed between CAA, BAA, airlines and probably the Government* ".

10.29 KPMG, Towerhouse and HAL have applied an unjustified leap of logic by implying that there could have been no form of intervention, other than what they have proposed, that would have been reasonably consistent with the CC's intentions at Q5. This goes far beyond what was actually written by the CC, and hence far in excess of what could be reasonably described as the fulfilment of any legitimate expectation.[17]

Q6 determination

10.30 KPMG, Towerhouse and HAL's views also disregard the statements we made at Q6 that made no distinction between catastrophic and business-as-usual risk, and unambiguously and explicitly allocated all traffic risk to HAL (as evidenced in paragraph 10.27 of our Final Proposals). We also note that the Q6 determination supersedes the Q5 determination discussed above, being the more recent (and hence more relevant) determination. This further undermines the suggestions that HAL and its advisors have made about the relevance of the Q5 determination.

10.31 We disagree that the statement we made at Q6 regarding the possibility of price control reopening being credit positive (quoted in paragraph 11.3.8 of HAL's response to our Final Proposals) gives rise to a legitimate expectation of any specific intervention. We addressed this issue in paragraphs 10.30-10.36 of the Final Proposals.

10.32 HAL's view that the CC did not deal with the loss of return of the RAB "*in an exceptional circumstance which is not influenced by company performance*" once again ascribes meaning to the CC's statements that goes beyond what the CC wrote in its decision. It is simply not the case that the CC set out or implied a

[17] In the final proposals for Q6 (CAP1138), the CAA explicitly stated (at paragraph A12) that: "*HAL may request that its price control be reopened at any time. The CAA would consider such a request in the light of its statutory duties under the circumstances prevailing at the time*."

differentiated treatment of losses depending on whether they were or were not related to company's performance.

10.33 We note HAL's view that the absence of explicit compensation for pandemic-like risks at Q6 implies a legitimate expectation of *ex post* compensation. We continue to disagree, for the reasons set out in paragraph 10.39 of the Final Proposals.

Precedents in other sectors

10.34 We do not agree that the precedents cited by KPMG in chapter 4 of its report constitute a persuasive case for the RAB adjustment HAL has requested. The precedents presented are selective and omit numerous instances where regulators have chosen not to intervene in the event of unforeseen circumstances. Where intervention has taken place, these interventions reflected the specific situation faced at that time and the specific characteristics of the firm or sector in question, and so do not provide a clear read-across to HAL's current situation.

10.35 In the specific case of NR23, we do not consider that the disapplication of NERL's automatic calculation of the TRS mechanism gives rise to a legitimate expectation of any specific form of intervention in the context of H7.

10.36 The licence modifications to which KPMG refers differ in a number of ways from HAL's proposed intervention:

- they were implemented in the context of price control arrangements that already included an explicit TRS mechanism and which afforded significant protection to NERL;
- they were motivated by significant increases in maximum allowed charges that would otherwise have occurred, rather than the remuneration of historical losses; and
- the revenues that would have been earned under the mechanism will continue to be earned over an extended time period in an NPV-neutral manner.

10.37 As such, they are in no way comparable to HAL's proposed RAB adjustment.

Retrospection

10.38 We disagree with HAL's statement that, "It was […] the CAA's failure to take appropriate action in 2020 that has caused any request by Heathrow to appear 'retrospective'".

10.39 We would firstly note that it would have been inappropriate for us to reopen a price control in 2020 without due consultation and in the absence of necessary information.

10.40 Moreover, even if we had applied a RAB adjustment in line with HAL's proposals in July 2020, this would also, at least in part, have constituted retrospective action, in the sense that we would have been applying a TRS mechanism to a traffic shock that was already underway.

10.41 It is inaccurate to claim that we did not carry out any forward-looking assessment of financeability. This analysis was set out in the February 2021 Consultation at paragraphs E17-E30.

10.42 It is equally inaccurate to suggest that we have relied on HAL's continuing operations as the basis for our conclusions on financeability. Our assessment has always been focused on the notional company, and relied on an explicit analysis of financeability that included the impact of the £300 million RAB adjustment we applied in the April 2021 RAB Adjustment Decision.

Financeability

10.43 We set out our views regarding the importance of regulatory depreciation in paragraphs 10.47-10.53 of Final Proposals. The statement we made at Q5 (and quoted by HAL in paragraph 11.5.7 of its response to our Final Proposals) in respect of regulatory depreciation is entirely consistent with this view. It does not, however, state or imply any sort of guarantee that regulatory depreciation will be recovered. We would also reiterate that this statement was made 15 years ago and has been superseded by our Q6 determination.

10.44 We have fully reviewed the statements from HAL's investors. These do not alter the views we previously expressed in respect of the recoverability of regulatory depreciation.

10.45 We continue to disagree that HAL is not investable in the absence of a guarantee that efficient investment will be returned in the case of catastrophic events. Contrary to HAL's statement in paragraph 11.5.11, we reasonably considered the equity investability implications of the pandemic in paragraphs 13.74-13.82 of the Final Proposals.

10.46 We considered the views of the Thessaloniki forum in paragraph 10.60 of the Final Proposals.

Consistency with H7

10.47 We have addressed the issue of consistency between the TRS we have decided to put in place for H7 and the April 2021 RAB Adjustment Decision in paragraphs 10.41-10.43 of the Final Proposals.

Capacity expansion

10.48 We explained in paragraphs 6.49-6.54 of the Initial Proposals why we disagreed with HAL that a further RAB adjustment is necessary to allow for an appropriate level of investment, opex or service quality in H7. The same logic applies to expansion.

10.49 In any event, precise plans for expansion are currently paused, and we have said we will deal with these matters separately and in a way consistent with our statutory duties if HAL were to reintroduce proposals for capacity expansion.

Economic characteristics of infrastructure assets

10.50 We are not persuaded that the nature of infrastructure assets precludes them from bearing demand risk generally.

10.51 We agree that, in the specific circumstances of H7, a degree of demand risk sharing is likely to be in the mutual interests of customers and investors. That is why we have decided to put in place a TRS mechanism in H7 on a prospective basis. However, for the reasons set out previously, this does not imply that it would be in the interests of consumers to apply this mechanism retrospectively to cover historical periods.

Towerhouse comments

10.52 We do not agree with the way Towerhouse has characterised our approach to the RAB adjustment in HAL's legal annex, as we explain further below.

The April 2021 RAB Adjustment Decision

Lack of justification and failure to have regard to all relevant considerations

10.53 We consider that Towerhouse has incorrectly interpreted paragraph C3 of the April 2021 RAB Adjustment Decision and consequently drawn the incorrect inference. This paragraph was making the self-evident observation that the H7 price control process was still in its early stages in April 2021, and that there was evidence and analysis that was simply not available to us at that stage. Where evidence was available to us at the time, this was duly taken into account.

Failure to consult

10.54 We also disagree with Towerhouse's statement that we failed to adequately consult on the criteria we ultimately applied. We issued an initial consultation on HAL's request for a RAB adjustment in October 2020 (CAP1966)[18] and issued a further consultation on the framework we intended to employ to determine whether and to what extent to apply a RAB adjustment in February 2021

[18] Economic regulation of Heathrow Airport Limited: response to its request for a covid-19 related RAB adjustment (CAP1966). Available online at: www.caa.co.uk/CAP1966

(CAP2098)[19]. We then applied this framework in reaching a decision in the April 2021 RAB Adjustment Decision .

10.55 It is in the nature of a price control consultation process that the final decision will include certain changes and refinements compared with the previous consultation. We are satisfied that the changes we introduced in the April 2021 RAB Adjustment Decision were reasonably consistent with the framework on which we had consulted in February 2021. As such, we do not consider that this constitutes a failure to consult.

10.56 In the specific case of the gearing assumption applied in the April 2021 RAB Adjustment Decision, our reasoning was clearly set out in paragraph 4.12 of that decision. We also note that this was only one of two reasons why we decided to apply the RAB adjustment set out in the April 2021 RAB Adjustment Decision, the other being to facilitate additional investment by HAL during the year 2021 that would further the interests of consumers at that time.

Unlawful threshold

10.57 We disagree with Towerhouse that we applied an unlawful threshold in reaching the April 2021 RAB Adjustment Decision. The quotes that Towerhouse have set out referred to our early views regarding how we might approach certain arguments advanced by HAL in the context of the H7 price control. They did not form the basis for the April 2021 RAB Adjustment Decision, which was explicitly made with reference to our statutory duties as set out in paragraphs 3.14-3.58 of that decision.

Assumptions underpinning the April 2021 RAB Adjustment Decision

10.58 We consider that Towerhouse's comment in this regard may suggest it has failed to review and follow our H7 process in its entirety. We reconsidered the evidence for our Initial and Final Proposals to determine whether there was a case for a further RAB adjustment in the interests of consumers, but concluded that there was not. These further considerations took account of the latest available information.

10.59 The fact that the projections underpinning our assessment were subsequently superseded does not imply that our decision was inappropriate at the time or an "error" as Towerhouse has suggested. It is in the nature of regulation that projections made at the time of a determination will be superseded. We addressed this point in paragraph 10.72 of the Final Proposals.

[19] Economic regulation of Heathrow Airport Limited: response to its request for a covid-19 related RAB adjustment. Available online at: www.caa.co.uk/CAP2098

Treatment of RAB adjustment in the Initial Proposals and the Final Proposals

Reliance on judgement and relevance of the April 2021 RAB Adjustment Decision

10.60 We consider that Towerhouse's comment in this regard may again suggest it has failed to review and follow our H7 process in its entirety. Towerhouse is incorrect to suggest that we relied exclusively on the April 2021 RAB Adjustment Decision in reaching our view on the need for a further RAB adjustment at H7. This view was based on a fresh consideration of the evidence, including detailed and quantitative analysis of HAL's financeability at both the Initial Proposals and the Final Proposals. As such, it is incorrect for Towerhouse to claim that we relied largely on qualitative judgements.

Financeability, investment and quality of service

10.61 We do not consider that it was necessary for us to have carried out further analysis of different levels of RAB adjustment on HAL's financeability, level of investment or quality of service.

10.62 Our financeability assessment in the Final Proposals clearly showed that the notional company was financeable in the absence of any further RAB adjustment. Together with our view that a further RAB adjustment would have no material impact on investment or service quality[20], it logically followed that the main impact of a further RAB adjustment would be the transfer of value from consumers to shareholders and that this would not be in the interests of consumers.

10.63 Further financeability analysis of different levels of RAB adjustment would have added little or nothing to this conclusion, except to illustrate the extent of the transfer of value that would have resulted.

Failure to engage with evidence

10.64 Including this document, the CAA has responded to submissions, evidence and analysis from stakeholders in relation to HAL's proposed RAB adjustment in six separate documents. There is no basis to claim that the CAA has failed to engage with evidence at any stage of this process.

10.65 We have fully engaged with all evidence that has been presented to us, and where reasonable and practical we have provided a proportionate discussion of our views in each case. Where we have not provided an explicit discussion, we have nonetheless given due time and consideration to the evidence.

[20] See CAP2265C, paragraphs 6.49-6.54.

10.66 In the specific case of the KPMG report submitted alongside HAL's response to the Initial Proposals, we are satisfied that our consideration and discussion of this report was proportionate to its merit and relevance to our proposals.

Response to airline objections

10.67 We set out in paragraph 10.84 of the Final Proposals that:

> "Our reasoning was that providing a RAB adjustment could alleviate balance sheet constraints faced by the notional entity that might otherwise prevent it from undertaking capital expenditure needed to accommodate a potential recovery of passenger volumes in the summer of 2021. We continue to consider that this was a reasonable assumption in the context of the prevailing circumstances at the time of the April 2021 RAB Adjustment Decision."

10.68 We note in this regard that the focus of the RAB adjustment made under the April 2021 Decision was on outcomes, namely, service quality and investment in 2021: that is, before we were able to take account of such outcomes in our H7 price control proposals. As such, we do not consider that it would be appropriate to revisit our April 2021 RAB Adjustment Decision on the basis of outcomes in 2022.

10.69 We also noted in paragraph 10.99 of the Final Proposals that:

> "We do not consider that the reversal of the £300 million RAB adjustment, as proposed by some airline stakeholders, would further the interests of consumers. We remain of the view that this adjustment was justified and appropriately calibrated given the information available at the time. To reverse this now would tend to increase investor perceptions of risk, increase the cost of capital and put upward pressure on airport charges, which would not be in the interests of consumers."

10.70 We indicated in paragraph 10.87 of the Final Proposals that:

> "we are particularly conscious of the importance of the summer period in 2022 in terms of the potential stresses on airport and other infrastructure and service providers, the potential impact of large numbers of passengers and more broadly on the recovery of passenger numbers at Heathrow. If it is appropriate, we will review HAL's operational performance in the Autumn of this year, with a view to ensuring that the interests of consumers are properly protected".

10.71 We did not subsequently consider that a review of HAL's operational performance was necessary, and that it would distract from our primary focus of reaching a decision in respect of the H7 price control. In any case, it is not clear that the reversal of the April 2021 RAB Adjustment would have been the appropriate remedy in the context of such a review.

10.72 We disagree that the application of the RAB adjustment will materially undermine incentives to deliver on service quality. Our decision on the H7 price control includes a suite of incentives that encourage service quality improvement, and our capex incentive mechanism will penalise non-delivery of capital projects.

Conclusion in respect of stakeholders' views

10.73 Having reviewed stakeholder responses to our Final Proposals, we continue to view a further RAB adjustment would not further the interests of consumers and propose to retain the RAB adjustment we decided to make in the April 2021 RAB Adjustment Decision.

Updating for recent market developments

Adjustment applied in the April 2021 RAB Adjustment Decision

10.74 Recent market developments are not directly relevant to the April 2021 RAB Adjustment Decision, since this decision was made based on the circumstances prevailing at that time. Bearing this in mind, we propose to continue to apply a RAB adjustment of £300 million in 2018 prices from 2021 onwards.

Further RAB adjustment proposed by HAL

10.75 We also do not consider that recent market developments materially affect our decision not to apply a further RAB adjustment beyond that we set out in the April 2021 RAB Adjustment Decision. This is because the principal issue in question is the treatment of historical, pandemic-related losses, whose substance and magnitude are unaffected by recent developments. We therefore do not propose to apply any further RAB adjustment beyond that set out in the April 2021 RAB Adjustment Decision.

Calculation of H7 opening RAB and implementation

10.76 Our updated calculation of the opening H7 RAB is set out in the Table below.

Table 10.1: Roll-forward of RAB over Q6 and iH7

£ million, December of current year prices	Q6 2014*	Q6 2015	Q6 2016	Q6 2017	Q6 2018	Q6+1 2019	iH7 2020	iH7 2021
Opening Basic RAB	14,816	14,859	14,921	15,236	15,707	15,993	16,139	15,947
Additions in year	392	586	668	618	666	619	447	284
Assumed ordinary depreciation	-505	-703	-723	-772	-802	-823	-830	-870
Indexation to December	157	178	371	624	422	351	191	1,179
Closing Basic RAB	14,859	14,921	15,236	15,707	15,993	16,139	15,947	16,540
CAA end-of-period adjustments	0	0	0	0	0	0	0	936
Closing RAB after CAA adjustments	14,859	14,921	15,236	15,707	15,993	16,139	15,947	17,477

* Note: 2014 refers to April to December 2014

Source: CAA

10.77 The 2021 Closing RAB after CAA end-of-period adjustments (the H7 Opening RAB) is £17,477 million in December 2021 prices, which is £11 million higher than in the Final Proposals. This is because our final decision on early expansion costs results in a higher amount than in the Final Proposals, as noted below:

Table 10.2: CAA end-of-period adjustments

£ million, December of current year (2021) prices	2021*
Targeted RAB adjustment	338.48
Q6 capex review	-14.37
Early expansion cost review (including financing cost)	612.33
Total CAA adjustments	936.44

Source: CAA

10.78 The RAB roll-forward figures are used in the calculation of the H7 price control set out in chapter 13 (Calculating the price cap and financeability).

Chapter 11

Allowance for asymmetric risk

Introduction

11.1 In setting HAL's price control, we make projections of its costs and revenues and use these alongside our forecast of passenger numbers and other assumptions to determine the maximum level of airport charges. Our intention is to set HAL's price control in a way such a way that, on the basis of the expected forecasts, the expected opportunities for HAL to outperform are broadly matched against the risk that HAL could underperform. Otherwise, the price control arrangements will contain bias that could either:

- lead to windfall profits for HAL at the expense of consumers; or
- create expectations of losses that could damage incentives for new investment and the provision of AOS by HAL, which would be contrary to consumers' interests.

11.2 Historical experience of passenger forecasting suggests that the risk that HAL could encounter sudden downside shocks to traffic, such as those experienced during the pandemic, is not likely to be accompanied by an equal and offsetting set of possible upside events. This is in part because the increased passenger numbers that would be needed to produce such upside events are constrained by the number of flights that Heathrow airport can accommodate as a result of planning and capacity restrictions.

11.3 In light of the above, we have developed an allowance for asymmetric risk. This helps us to secure that the notional company is able to finance its activities by ensuring that the notional company faces a "fair bet".

11.4 This chapter sets out our updated proposals for the asymmetric risk allowance, including changes made in the light of developments since the Final Proposals.

The Final Proposals

11.5 In the Final Proposals, we proposed to include two adjustments in relation to asymmetric risk:

- a shock factor of -0.87% applied to the passenger forecast, in relation to non-pandemic downside shocks; and

- an asymmetric risk allowance to compensate HAL for low frequency, high impact shocks that cause major disruption to traffic (we use the term "pandemic-like events" as shorthand for these shocks in the discussion below).

11.6 Table 11.1 sets out the value of our proposed asymmetric risk allowance in the Final Proposals.

Table 11.1: Final Proposals asymmetric risk allowance (£ million CPI-real, 2020 prices)

	2022	2023	2024	2025	2026
Asymmetric risk allowance	0	6	18	27	27

Source: CAA analysis

11.7 The asymmetric risk allowance was estimated based on the assumption that future pandemic-like events would:

- result in a similar percentage loss of passengers over a similar time period as the covid-19 pandemic, with corresponding impacts on opex and commercial revenues; and
- occur with a 3.5% probability in each year, but assuming that there would be no new pandemic-like event in 2022.

11.8 We made our underlying calculations available to stakeholders upon request.

Summary of stakeholders' views

HAL

11.9 HAL challenged certain aspects of our approach:

- stating that we should have included the impact of pandemics that started between 2020-22, notwithstanding that these dates are in the past. HAL described our approach as "akin to requiring an insurance company to pay back any premiums at the end of a year where no claim has been made";
- describing our approach as "cumbersome" and "clunky", and proposed an alternative calculation approach based on static, period-wide input assumptions (for example, in terms of the traffic impact of a future pandemic-like event); and
- noting that asymmetric risk allowance for the final decision will need to reflect the final level of the H7 price cap and its associated building blocks.

Airline stakeholders

11.10 Airlines were generally opposed to the inclusion of an asymmetric risk allowance.

11.11 AOC/LACC said that an additional allowance to address a negative asymmetry is neither required nor justified given the other risk mitigation measures already in place. AOC/LACC also referred to its previous submissions in which it argued that the size of the traffic shock, duration of the pandemic and frequency of the pandemic feeding into our calculations are overly generous to HAL.

11.12 BA opposed the inclusion of an asymmetric risk allowance on the grounds that:

- the Competition Commission opined at Q5 that communicable diseases can be considered a normal business risk;
- the allowed return already includes compensation for bearing asymmetric risk;
- we previously provided evidence at the Q6 periodic review that no adjustment was necessary to compensate for alleged asymmetry in the cost of equity; and
- we have not evidenced the existence of asymmetric risk.

11.13 Delta and VAA also opposed the inclusion of an asymmetric risk allowance on the grounds that:

- the allowance duplicates the effect of other mechanisms;
- in particular, they consider that the TRS mechanism results in full protection from pandemic-related risks under our own calculations. This, in turn, implies that the asymmetric risk allowance goes even further and provides HAL with upside; and
- in the context of future pandemics, HAL would benefit from learnings and experience from the current pandemic.

11.14 If we were to include an asymmetric risk allowance, Delta and VAA stated that we should:

- take into account the swift recovery of traffic volumes in 2022; and
- hold additional revenues under the asymmetric risk allowance in escrow.

Our views

Competition Commission Q5 views

11.15 We would reiterate that the CC's Q5 determination was over 15 years ago, and has been superseded by our Q6 determination.

11.16 We agree that the CC classified communicable diseases as business-as-usual risks in the context of the Q5 decision. However, at Q6, we considered that a shock factor was needed to reflect the fact that HAL is subject to asymmetric, downside risk, notwithstanding that this risk might be classified as business-as-usual.

Asymmetric risk and the allowed return

11.17 We explained in paragraphs 11.23-11.30 of the Final Proposals why we disagree that asymmetric risk is reflected within the allowed return.

11.18 Regarding the statement we made at Q6 to which BA referred, we consider that BA is conflating two, separate issues:

- co-skewness of returns, which represents the statistical tendency of a stock's returns to exhibit significant deviations from its mean level at the same time as the broader market, and is considered a risk factor under some asset pricing models. We considered that there was limited evidence of co-skewness in HAL's returns at Q6, and that in any case co-skewness did not warrant an adjustment to the WACC since it is not a risk factor under the CAPM; and
- the existance of asymmetric risk, which represents the exposure of a business to downside shocks that are not offset by any corresponding upside potential. We acknowledged that HAL was exposed to asymmetric risk at Q6, as evidenced by the fact that we included a shock factor within our traffic forecast.

11.19 The statement to which BA refers pertains to the first of these two issues. It also indicates that we did not consider that an adjustment to the WACC was the appropriate means of dealing with asymmetric risk. This remains our view. However, in line with our position in the Q6 price control, we consider that it is necessary to include an adjustment outside of the WACC.

Existence of asymmetric risk

11.20 We note that airlines have disputed the existence of asymmetric risk, even though such asymmetry is readily observable in the data and is, therefore, effectively a statement of fact. The shocks on which the shock factor are based each resulted in a loss of traffic that have not been matched by equivalent "positive" shocks of similar magnitude in any single year. It is also self-evident that there have been no "positive" shocks of similar magnitude or duration to the pandemic.

Relevance of the shock factor and TRS mechanism

11.21 We disagree that the asymmetric risk allowance duplicates other mechanisms:

- we have explained above why we do not consider that it duplicates the compensation provided to HAL under the allowed return;
- the shock factor compensates for non-pandemic shocks, but is insufficient to take account of pandemic risks; and

- the asymmetric risk allowance has been calibrated on the assumption that the TRS mitigates at least some of the impact of a future pandemic-like event, and as such does not duplicate or double-count the TRS.

11.22 We disagree that the TRS mechanism provides “full protection” to HAL in the event of future pandemic-like events. Indeed, the asymmetric risk allowance is directly based on the potential residual losses to which HAL is exposed, even after the TRS has been taken into account, if a pandemic-like event were to materialise. We estimate these losses could be up to £900 million.[21]

Assumptions regarding future pandemics

11.23 We explained our assumptions regarding future pandemics, including the relevance of learning and experience from the current pandemic, in paragraphs 11.33-11.36 and 11.42-11.43. of the Final Proposals.

Structure of the allowance

11.24 We do not consider VAA and Delta’s proposal in respect of holding TRS revenues in escrow to be appropriate or practical. These proposals would result in potentially significant sums being “tied up” in a way that did not benefit consumers and becoming accessible to HAL only once a pandemic-like event had crystallised. They would also introduce ambiguity over what constitutes a "pandemic-like event" and, hence, when the funding would be released.

11.25 Secondly, such a mechanism would involve a potentially significant increase in HAL’s allowed revenues in the immediate aftermath of a pandemic-like event. This is unlikely to be in the interests of consumers, since it could undermine the recovery of the industry from such an event. Moreover, such a mechanism would give rise to significant uncertainty regarding the timing of cashflows. If there was a relatively early pandemic-type event then it is less likely that this would be appropriately covered by a reasonable level of escrow funding, while a later pandemic might be over-funded. We also note that it would be necessary for the cashflows held in escrow to earn HAL’s allowed return in order ensure HAL was appropriately compensated for expected losses in NPV terms.

Calculation of the allowance

11.26 We disagree that our calculation of the allowance is particularly “cumbersome” or “clunky”.

11.27 Our approach is intended to capture the timing of pandemic-like events depending on which year they take place within H7. This is important, since the allowance is only intended to remunerate expected losses that take place within H7. For example, a pandemic-like event lasting three years and starting in 2026

[21] The spreadsheet setting our our asymmetric risk allowance calculations will be made available on request.

would only lead to losses in one year of H7. The remaining two years of losses would take place in H8 and would need to be considered as part of the H8 price control determination.

11.28 Our approach also allows us to reflect the absence of a pandemic-type event in 2022 and, hence, ensures that only forward-looking expected losses are remunerated.

11.29 HAL's approach would not allow for these distinctions to be made and would lead to an inappropriately larger allowance.

11.30 We responded to airlines' criticisms of our calibration in paragraphs 11.34 and 11.42-43 of the Final Proposals.

Inclusion of 2020-22 pandemic impacts

11.31 We disagree with HAL's proposal to include the impacts of hypothetical pandemics between 2020 and 2022 and consider that this represents an extension of HAL's arguments on the RAB adjustment. Namely, that because it was subject to pandemic risk previously, it is entitled to retrospective compensation for bearing this risk after the fact. This would represent a value transfer from consumers to HAL, with no offsetting benefit in terms of risk reduction for consumers.

11.32 As for HAL's analogy with insurance, and its statement that our approach is "*akin to requiring an insurance company to pay back any premiums at the end of a year where no claim has been made*"; we consider that a more appropriate analogy would be the payment of insurance premiums starting from the commencement date of a new insurance policy. We also note that we have taken account of actual passenger numbers in our calculations of price control revenue for 2022 and so HAL has already received protection from the adverse impact of covid-19 on its 2022 passenger numbers.

Updating for recent developments and the CAA's Final Decision

11.33 The shock-factor adjustment to H7 passenger forecasts is set out in chapter 1 (Passenger forecasts) of this Final Decision.

11.34 We have updated estimate of the asymmetric risk allowance in the Final Proposals to take account of the following inputs:

- passenger volumes;
- the corresponding impacts on opex and commercial revenues; and
- the updated price cap for H7.

11.35 We have not amended the assumed frequency or severity of future pandemic-like events, or the assumed opex and commercial revenues elasticities, since recent market developments do not materially alter our view of these inputs.

11.36 The resulting allowance is set out below:

Table 11.2: Final Decision asymmetric risk allowance (£ million, CPI-real, 2020 prices)

	2022	2023	2024	2025	2026
Asymmetric risk allowance	0	8	19	25	25

Source: CAA analysis

11.37 The asymmetric risk allowance is broadly similar in CPI-real 2020 prices to the allowance we set out in the Final Proposals.

11.38 Making an asymmetric risk allowance at this level is, in our judgement, proportionate to the nature, size and frequency of the aysymmetry in risk faced by HAL. Therefore, using it in the calculation of the price control helps us to further the interests of consumers, through helping to secure that the notional company is able to finance its activities: specifically, by ensuring that the price control represents a “fair bet”.

Implementation and next steps

11.39 The asymmetric risk allowance is added to the calculation of HAL’s price control revenue in chapter 13 (Calculating the price cap and financeability).

11.40 As in the Final Proposals, we will make our underlying calculations available to stakeholders upon request.

Chapter 12
Financial framework

Introduction

12.1 The design of the financial framework we use in setting HAL's price control is a key element of the way in which we have regard to the need to secure that HAL can finance its activities at Heathrow. It is also important in furthering the interests of consumers more generally as the financial framework influences the overall level of charges and supports HAL in financing new investment.

12.2 Our assessment of HAL's financeability focuses on the notional (regulated) company because this is consistent with the interests of consumers. HAL's directors and shareholders are responsible for determining the actual capital structure that they consider to be appropriate, and they bear the risks and rewards of their decisions. This is consistent with our previous practice and that of other regulators and reasonably supports HAL's financeability and its continued ability to invest in the interests of consumers.

12.3 On this basis, our overall approach to the financial framework is designed to secure that HAL can reasonably finance its activities through an appropriate mixture of debt and equity[22] (on the basis of the ratio of debt and equity finance, or gearing, of the notional company, as discussed below in this chapter and in the Final Proposals[23]).

12.4 This chapter addresses four policy areas that are key aspects of our approach to the financial framework for the notional company:

- opening gearing;
- regulatory depreciation;
- inflation and price control indexation; and
- corporation tax.

12.5 For each of the four policy areas listed above we summarise the Final Proposals, summarise stakeholder responses to the Final Proposals, set out our views in response to the stakeholder comments and set out our final decision.

[22] We refer to the constituent elements of this as "debt financeability" and "equity financeability".

[23] CAA (2022), Economic regulation of Heathrow Airport Limited: H7 Final Proposals, June, paragraphs 12.5-12.7.

The Final Proposals

Gearing

12.6 In the Final Proposals, we set out our proposal to assess financeability on the basis of the notional company. This approach is consistent with the interests of consumers as well as our duty to have regard to the need to secure that HAL can finance its activities at Heathrow Airport.

12.7 We assumed that the notional company would have gearing of 60 per cent at the start of 2020 and then assumed that the notional company issued additional debt to fund the shortfall from operational cash flows during 2020 and 2021.[24] On this basis, our modelling showed that this would lead to gearing of 65.4 per cent at the start of 2022. We then assumed that cash flow would be retained (instead of being used for dividends) by the notional company until gearing reaches 60 per cent. This modelling led to the gearing of the notional company returning to 60 per cent by the end of 2022.

12.8 We said that this approach to assessing the price control makes clear the division of responsibilities between regulator and regulated company, being that HAL's management and shareholders are responsible for their decisions in respect of HAL's actual capital structure (rather than the structure of the notional company that we assume is in place in setting the price control). A consequence of this is that the management and shareholders of HAL bear the risks and rewards of their actual chosen capital structure.

Depreciation

12.9 Our approach to regulatory depreciation was to take the depreciation profile from HAL's RBP Update 2 and then adjust the depreciation allowance to take account of the differences between HAL's proposed capex profile and our final proposal in respect of capex. As noted in the Final Proposals, this approach is consistent with our policy in setting the Q6 price control, and acts (in conjunction with our forecasts of capital expenditure) to produce a relatively stable level for the RAB over the H7 period.

Inflation

12.10 We described in the Final Proposals how, in the light of recent volatility in both outturn and forecasts for inflation, we were updating our policy in respect of how inflation is used within the price control. Inflation is used in several distinct parts of the price control setting process including:

- our calculation of HAL's revenue requirement;

[24] CAA (2022), Economic regulation of Heathrow Airport Limited: H7 Final Proposals, June, paragraph 12.6.

  - the annual inflation indexation of HAL's price cap; and
- indexation of the RAB.

12.11 The Final Proposals for each of these areas, respectively, were:

- to calculate HAL's allowances in nominal terms in our price control financial model and then deflate by forecast CPI for the purpose of specifying a price cap in real 2020 CPI prices;
  - to index HAL's price control by reference to the CPI measure of inflation; and
- to retain RPI indexation of the RAB.

12.12 We also noted our proposals were based on the latest inflation forecasts available from the OBR, as published as part of its March 2022 economic and fiscal outlook.[25]

Tax

12.13 Our final proposal for tax was set to retain the use of a pre-tax WACC as a way of remunerating tax costs. We noted that this approach was transparent and proportionate in the context of the H7 price control.

12.14 We proposed to introduce a mechanism to true up allowances for tax in the event that the corporation tax rate changes during the course of the H7 price control. We also stated that we did not intend to introduce a tax clawback mechanism following consultation on such an option earlier in the price control process.

Summary of stakeholders' views

Gearing

12.15 HAL suggested that we had applied the 60 per cent gearing level in our model incorrectly, as we failed to reflect early expansion costs and associated borrowing in the closing RAB for 2019, resulting in an opening embedded debt level that is understated by £275 million.

12.16 HAL also said that the data we used for operating costs, commercial revenues and interest costs in 2020 and 2021 was incorrect.

[25] CAA (2022), Economic regulation of Heathrow Airport Limited: H7 Final Proposals, June, paragraphs 12.40-12.42.

Depreciation

12.17 BA said that it was concerned that we continued to use estimates of depreciation produced by HAL for its RBP Update 2 rather than developing our own calculations

Inflation

12.18 HAL said we erred in law by failing to consult on changes to our approach to inflation, in particular, our proposal to switch from using RPI to index HAL's price control to using CPI, and our use of contemporaneous inflation rather than historical inflation.

12.19 HAL said that a switch to CPI indexation of its price cap, while retaining RPI indexation of the RAB, introduced inconsistencies into the price control (for example, in relation to the development capex adjustment in the licence) and could have unfair consequences if CPI and RPI diverge by more or less than expected in a sustained way.

12.20 HAL stated that our proposal to index the price control using contemporaneous inflation would, in practice, require HAL to make forecasts of inflation before the start of each charging year. HAL said that this is not in consumers' interests as it would introduce unnecessary volatility in charges, and could lead to unfairness to airlines, because those that overpay in a given year may not benefit when the licence's K-factor correction mechanism provides for lower charges in subsequent years.

12.21 BA supported our decision to switch to a CPI–X model to index the H7 price cap, as a result of RPI's de-designation and the difficulties in calculating CPIH. BA stated that we have not justified our proposal to continue the use of RPI for RAB indexation. It argued that the use of RPI is poor regulatory practice following its de-designation as a national statistic, and that there is no evidence that a move to CPI is not in consumers' interests.

12.22 BA supported the use of inflation forecasts for calculating annual revenues.

Tax

12.23 HAL and BA supported the pre-tax approach as a transparent, proportionate and reasonable for calibrating tax allowances.

12.24 HAL and BA also supported the introduction of the tax uncertainty mechanism in order to consider the impact on the tax allowance of any differences arising from changes in the statutory rate of corporation tax. HAL argued that there is merit in allowing flexibility in the tax uncertainty mechanism to implement upward adjustments in the RAB rather than revenue.

12.25 BA said that our proposal not to introduce a tax clawback mechanism would allow significant value leakage to HAL investors, and that a clawback mechanism calculated with gearing assessed on the basis of FGP TopCo Ltd would provide a full level of consumer benefit.

Our views

Gearing

12.26 We disagree with HAL's view that we have applied the 60 per cent notional gearing level to our model incorrectly. We have used a gearing of 60 per cent as at the end of December 2019. HAL argue that because we only include the early expansion costs in the RAB at the end of December 2021 that we have ignored the debt associated with those costs. But HAL also state that the "vast majority" of the expansion costs were incurred before December 2019. Consequently, the vast majority of the debt associated with those costs should be captured within the 60 per cent opening gearing as at December 2019.

12.27 Moreover, if we were to adjust the model in the way that HAL propose the impact on debt financeability would be immaterial. If we were to increase opening debt by £275 million as HAL propose, then dividends in 2022 would simply be reduced by £275 million to offset this and preserve the gearing level. Consequently, the net debt would be unchanged and the credit metrics that depend on net debt would be unaffected. The change in the timing of the dividend would also not have a significant impact on equity financeability as the timing of dividends would not be expected to have a significant affect the value of a business.[26]

12.28 We note that HAL has said our operating costs, commercial revenues and interest costs data for 2020 and 2021 was incorrect. We set out a clear explanation of our approach to these matters in the Final Proposals and where appropriate have updated these projections as part of this Final Decision.

Depreciation

12.29 We do not agree with BA's suggestion that the proposals for regulatory depreciation were not sufficiently robust and as noted below have cross checked the overall approach to regulatory depreciation allowances and find it to be reasonable. There is no evidence or reason to suggest that applying BA's suggestion of 1/20th of the RAB every year or an alternative approach - would yield more appropriate estimates of HAL's depreciation allowance.

12.30 As explained in the Final Proposals, our proposal to use HAL's regulatory depreciation profile from its RBP was consistent with our wider assessment of affordability and financeability, and appropriately balanced the interests of

[26] Using funds to reduce gearing increases the capital value of shareholders' investment by the same amount as the value that shareholders would receive if those funds were used to pay a dividend.

present and future consumers.[27] BA has not provided any new evidence to suggest that our proposed approach to calculating HAL's depreciation allowance is not in line with consumers' interests. As a result, we are not persuaded that we should make any changes to the depreciation policy suggested in the Final Proposals.

Inflation

12.31 We do not agree with HAL's suggestion that we have not consulted on the proposed change to our inflation policy. We note that the Final Proposals were themselves a consultation (and HAL has responded to this consultation in detail). We have considered HAL's comments and representations in detail before reaching this Final Decision and decided that they do not warrant us changing our approach and we reject HAL's allegations that we have erred by not consulting on this issue.

12.32 The Final Proposals set out our reasoning behind the changes proposed. For instance, regarding our switch from using RPI to using a CPI for the indexation of prices we have explained that the RPI index is no longer a national statistic following reviews carried out by the National Statistician and the UK Statistics Authority, which identified serious flaws in the approach used to calculate the RPI index.

12.33 We do not agree with HAL's view that introducing CPI indexation for the H7 price control while maintaining RPI indexation for the RAB introduces inappropriate inconsistency. The main issue of consistency involves ensuring we have the same approach to inflation in indexing the RAB and calculating for the WACC and we have used the RPI in relation to both of these matters.

12.34 BA is wrong to state that we have not justified our proposal to continue the use of RPI for RAB indexation. Earlier in the price review we explained that this would support HAL's financeability (and we note that our assumptions on embedded debt include a proportion of RPI index linked debt). We also noted in the Final Proposals that a change in approach between the Initial Proposals and Final Proposals in the context of the inflation index chosen for RAB indexation would risk harming the CAA's reputation for stable and predictable regulation, which could, in turn, harm consumers' interests.[28] In addition, we explained that the switch to CPI indexation would result in lower indexation of the RAB but would necessitate the use of a higher CPI-stripped WACC and materially higher charges during the H7 period. Therefore, consumers' interests are not harmed by retaining the RPI linkage to the RAB. So, while there are drawbacks in using the RPI to index prices as noted above we remain of the view that it is

[27] CAA (2022), Economic regulation of Heathrow Airport Limited: H7 Final Proposals, June, paragraph 12.9.

[28] CAA (2022), Economic regulation of Heathrow Airport Limited: H7 Final Proposals, June, paragraph 12.35.

appropriate for the indexation of the RAB in H7. Nonetheless, we are likely to transition to the indexation of the RAB by the CPI in H8.

12.35 We also do not accept HAL's claim that it is bad regulatory practice to require HAL to use forecast inflation for indexing airport charges per passenger. We have considered the impact on consumers of the different policy options and concluded that consumers' interests would be best promoted by using forecast inflation. The use of forecast inflation is necessary for charges to reasonably track inflation, as high volatility in inflation is expected to continue over the early years of H7.[29] Any additional complexity introduced by using forecast inflation is only marginal and more than offset by the wider benefits of more timely estimates of inflation levels.

Tax

12.36 We set out the reasons for not implementing a tax clawback mechanism in the Final Proposals. These included concerns about whether our proposed tax clawback mechanism would be proportionate, and over the period of the five year price control the uncertainty as to whether the mechanism would appropriately reflect underlying differences in tax costs.[30] BA has not provided any evidence to change our assessment: it merely suggests that the issue is more material than we realise. We note that it suggests that a tax clawback mechanism should be calibrated on the basis of the gearing of FGP TopCo Ltd but continue to hold the view that this would not be an appropriately targeted or proportionate approach.

The CAA's Final Decision

Gearing

12.37 We have assessed financeability on the basis of the notional company. This approach is consistent with our own and other regulator's approaches as well as our duty to have regard to the need to secure that HAL can finance its activities at Heathrow Airport as explained in the Final Proposals and noted above.

12.38 Consistent with the approach described above and in the Final Proposals, we have modelled gearing of 60 per cent at the start of 2020 and then assumed that the notional company issued additional debt to fund the shortfall from operational cash flows during 2020 and 2021. This modelling leads to gearing of 64.8 per cent at the start of 2022. We then assume that cash flow is retained by the notional company (instead of being paid out as dividends) until gearing reaches

29 OBR (2022), "Economic and Fiscal Outlook", November, Table A.1.

30 CAA (2022), Economic regulation of Heathrow Airport Limited: H7 Final Proposals, June, paragraphs 12.78-12.79.

60 per cent. On this basis, our modelling shows that the gearing of the notional company would have returned to 60 per cent by the end of 2022.

Depreciation

12.39 We have continued to base our allowance for regulatory depreciation on the profile in HAL's RBP update 2. We have adjusted this profile to take account of the difference between HAL's proposed capex plan and the Final Decision on capex. This approach is consistent with our policy in setting the Q6 price control and acts to produce a relatively stable RAB in the H7 period.

Inflation

12.40 Our final decision is to retain the broad approach to inflation indexation for the H7 price control set out in the Final Proposals. We base our modelling of HAL's price control revenues on the Office of Budget Responsibility forecasts of CPI. Nonetheless, since the publication of the Final Proposals, the Office of Budget Responsibility has produced a more recent set of CPI forecasts as part of its November 2022 economic and fiscal outlook.[31] We therefore reflect these more recent CPI forecasts in our final decisions. The use of a CPI forecast for airport charges is more appropriate than the use of RPI (which contains serious flaws) or the use of CPI-H (due to our difficulties in identifying reliable, current forecasts for the period to 2026).

12.41 In addition, we have decided to retain our proposed approach of indexing the RAB in line with RPI, consistent with our previous commitments and recognising the importance to investors of an appropriate degree of regulatory stability.

Tax

12.42 Our final decision is to retain the approach to setting HAL's tax allowance set out in the Final Proposals.

12.43 In particular, we consider that using a pre-tax approach to setting HAL's tax allowance will further the interests of consumers by allowing for a transparent and proportionate approach to calibrating tax allowances for setting the H7 price control that is consistent with the approach in Q6. As there may be differences between the assumed corporate tax rate and the rate of corporation tax experienced by HAL during the H7 period, we consider that this approach should be coupled with a tax uncertainty mechanism to provide further protection for the interests of consumers and to support HAL's financeability, by correcting for any such differences that arise.

12.44 The tax uncertainty mechanism will account for changes in the statutory rate of corporation tax during the H7 price control period. Any adjustment made under this mechanism will be calculated as the difference between the tax allowance

[31] See https://obr.uk/efo/economic-and-fiscal-outlook-november-2022/.

calculated for the pre-tax WACC for H7 and the revised tax allowance that would have resulted from using the actual statutory corporation tax rates that HAL has experienced during H7. We propose to implement any adjustments arising from this tax uncertainty mechanism through a revenue adjustment in the H8 price control period, but, if these adjustments were to be significant, we retain the flexibility to make a RAB adjustment instead.

12.45 We have decided not to introduce a tax clawback mechanism for the reasons set out above.

Implementation and next steps

12.46 Our final decisions for inflation, regulatory depreciation and gearing are reflected in the price control model that we have used to calculate the charges for the H7 period as set out in chapter 13 (Calculating the price cap and financeability) of this Final Decision.

12.47 In relation to price indexation, our approach is implemented:

- through the financial modelling and price control calculations discussed in chapter 13 (Calculating the price cap and financeability) of this Final Decision;
- our licence drafting which shows how allowed charges per passenger are to be uplifted from one year to the next; and
- our RAB rules which show how the RAB will be uplifted annually.

12.48 The tax allowance (calculated on a pre-tax basis) is implemented through our calculation of the price cap. The base level of allowance included within the Licence includes an allowance for tax in line with the final decisions set out above.

Table 12.1: Implied allowances for tax

£ million, CPI-2020	2022	2023	2024	2025	2026	Total
Implied tax allowance	131	132	139	140	140	682

Source: CAA

12.49 The figures shown in Table 12.1 above are ‘implied’ values for the tax allowance since tax allowances are calculated as part of the return on RAB through use of a pre-tax WACC. The figures shown in Table 12.1 are calculated as the difference between the return on RAB using pre-tax WACC and the return on RAB using a vanilla WACC.

12.50 Our final decision for the tax uncertainty mechanism will be implemented through an adjustment to revenue (or on an exceptional basis the RAB) at the H8 price control review.

Chapter 13
Calculating the price cap and financeability

Introduction

13.1 Setting the level of the price cap is central to the CAA's considerations in discharging its duty to further the interests of consumers. In furthering the interests of consumers, we are required by CAA12 to "have regard to" the need to secure that HAL is able to finance its provision of airport operation services at Heathrow airport. Consistent with the broad approach taken by other economic regulators, we focus on whether an efficiently financed licensee (the "notional company") carrying on its licensed activities would be financeable.

13.2 As explained in chapter 12 (Financial framework) our approach to furthering the interest of consumers and having regard to the matters set out in our secondary duties is to set a price control that facilitates the notional company having ongoing access to sufficient capital to allow it to develop, maintain and operate Heathrow airport to be safe, secure and resilient to meet the needs of consumers.

13.3 Our work on financeability has involved the assessment of base case and stress test scenarios and we are confident that the notional company will be financeable in these circumstances. Nonetheless, we also note that in a very severe and prolonged downside (even with new mechanisms for risk sharing, such as the TRS) the notional company could come under sustained financial pressure and we cannot guarantee that the notional company would be financeable in all circumstances.

13.4 We have been mindful of the importance of both financeability and the affordability of charges, not only in the analysis set out in this chapter but more generally in developing proposals for the H7 price control, including in respect of:

- the allowed cost of capital (chapter 9 (Weighted average cost of capital));
- regulatory depreciation (chapter 12 (Financial framework)); and
- the TRS mechanism chapter 2 (Regulatory framework).

13.5 This chapter:

- summarises the Final Proposals on setting the price cap and assessing HAL's financeability;
- summarises stakeholder responses to the Final Proposals on these matters;
- explains our views on stakeholder comments;

- describes the further work we have carried out on setting the price cap and assessing HAL's financeability; and
- sets our final decision and explains how this will be implemented.

The Final Proposals

Calculating the price cap

13.6 The Final Proposals said we would use the RAB-based building block approach from Q6 for calculating the allowed charge for the H7 price control. The resulting price cap calculation was as shown in Table 13.1 below.

Table 13.1: summary of the Final Proposals

£ million 2020, CPI real	2022	2023	2024	2025	2026	Total
Operating costs	1,127	1,143	1,192	1,227	1,210	5,899
Regulatory depreciation	841	879	918	970	1,022	4,629
Allowance for asymmetric risk	-	6	18	28	27	79
Allowed return (incl. tax)	644	658	663	663	667	3,295
Service quality bonus	-	4	-	-	-	4
Gross revenue requirement	2,611	2,690	2,791	2,888	2,925	13,905
Commercial revenues (incl. ORCs)	(852)	(955)	(1,052)	(1,115)	(1,122)	(5,096)
Cargo revenues	(45)	(28)	(18)	(11)	(11)	(114)
Net revenue requirements	1,714	1,707	1,721	1,762	1,792	8,696
Passengers (m)	55	67	75	81	82	360
Unprofiled yield per pax (£)	31.22	25.37	22.82	21.75	21.96	24.14

Source: CAA

13.7 We also described the proposal to profile charges on the basis of:

- the holding cap for 2022, which was implemented in December 2021; and
- a steadily declining profile of charges in real terms thereafter.

13.8 This profiling led to a proposed value of X of -5.74% for the purposes of the CPI+X calculation within the licence, as shown in Table 13.2 below.

Table 13.2: profile of charges from the Final proposals

£ million 2020, CPI-real	2022	2023	2024	2025	2026	Average[32]
Profiled yield per pax	27.39	25.88	24.42	23.04	21.75	24.50

Source: CAA

Assessment of financeability

13.9 The Final Proposals also described our approach to assessing financeability. We highlighted the policy measures which are key to HAL's financeability, including:

- the allowance for the cost of capital;
- our approach to regulatory depreciation; and
- the TRS mechanism.

13.10 We assessed both debt and equity financeability. We explained that our assessment of debt financeability focused on the notional company being able to access the debt finance it needs, when it needs it, at a reasonable cost. On this basis we assessed debt financeability quantitatively using the same credit metrics and thresholds used by credit rating agencies. We also considered qualitative factors that are likely to influence the credit rating agencies' assessment of credit quality.

13.11 Our analysis of credit metrics showed that the notional company would be able to achieve levels consistent with a BBB+ rating from 2023 onwards, with 2022 being marginally below the BBB+ threshold for some metrics. Our qualitative assessment of financeability considered the business risk profile, the cost of capital and incentives to invest, the profile of dividends available for shareholders in the notional company and the protection afforded by the TRS mechanism.

13.12 We also looked at financeability from an equity perspective. We looked specifically at the profile and volume of dividends available to shareholders in the notional company, and the internal rate of return on shareholder cash flows.

13.13 We used this combined assessment of qualitative and quantitative factors to conclude that the notional company would be financeable under the proposed price control arrangements. That is to say that it would be able to access cost effective, investment-grade debt finance and equity in a timely way.

Stress testing

13.14 Stress testing is a form of analysis in which we assess the potential implications of one or more of our forecasts turning out to be inaccurate. In carrying out this

[32] The average shown is a straight average over the H7 period

analysis, we assumed that airport charges were fixed as specified in the Final Proposals and that passenger numbers over the course of the H7 period turned out to be 10 per cent lower than our forecasts over the period 2023 to 2026. We made consequential changes to opex and commercial revenues as passenger volumes are a major driver of these costs and revenues.

13.15 This stress test showed that all credit metrics, except RAR[33], would have reduced headroom relative to the threshold for a BBB+ rating. We noted that a one "notch" rating downgrade to BBB seemed unlikely on the basis of these credit metrics.

13.16 We noted that rating agencies may take a different view of the actual company, including in relation to the level of the passenger forecast and that a credit rating downgrade by more than one notch would make debt financeability more difficult. In these circumstances, consistent with CMA precedent, we noted that additional equity would need to be made available to meet the short-term liquidity requirements (such as financing new investment).

13.17 We also considered whether it was reasonable to assume that shareholders in the notional company would be willing to provide additional capital through a period in which it was unable to obtain sufficient finance from the debt capital markets. Our assessment noted that there had been a number of shareholder cash support transactions in the aviation sector since 2020 and noted how the TRS provides a material level of additional support for shareholders.

13.18 Overall, we concluded that even in the difficult circumstances of a stress test situation and multi-notch downgrade, the Final Proposals would enable the notional company to finance its activities, with this in part relying on availability of equity finance if circumstances were such that the notional company had restricted access to debt markets.

Summary of stakeholders' views

Calculating the price cap

13.19 In broad terms stakeholders retained their existing positions on the level of the price control, HAL saying it was too low and airlines saying it was too high. Nonetheless, as noted below stakeholders also commented on the approach to calculating the price cap and profiling charges.

13.20 HAL said that we had erred in our arithmetic calculation of the return on RAB. It referred specifically to the discounting of the closing RAB and its use within the calculation of the average RAB upon which the cost of capital is allowed.

[33] RAR is the regulatory asset ratio. It is calculated as net debt divided by the RAB.

13.21 VAA argued that a charges profile that is flatter would be more appropriate and reasonable.

Assessment of financeability

13.22 HAL submitted a report produced by Lazard which examined issues relating to the availability of debt finance at different credit rating levels. The Lazard report contained information about issuance volumes in different debt market segments. The Lazard report also stated that the CAA's assumptions about capital structure were not consistent with the allowances in the Final Proposals. HAL made a similar point in its main response.

13.23 As it has done in response to previous consultations, HAL said that we were assuming that the notional company could obtain a credit rating that is one notch higher than is reasonable. It specifically suggested that the notional company would have been downgraded as a consequence of the covid-19 pandemic to BBB and that the CAA should target higher credit metric thresholds.

13.24 HAL also made a number of comments suggesting that the Final Proposals were not properly financeable including that:

- debt costs for Heathrow have been significantly underestimated;
- the CAA has not included the impact of its K factor adjustments in its financial modelling, particularly as regards the proposed AK(t) adjustment to true up over-recoveries against the price cap in 2020 and 2021;
- the Final Proposals are not investable for shareholders; and
- the CAA must have regard to the financeability of the actual company (i.e., not just the notional company).

13.25 BA contended that the Final Proposals were financeable and that in fact the CAA had been overly cautious in its financeability assessment on the basis that:

- the Final Proposals targeted a credit rating that is higher than necessary; and
- there is adequate liquidity in the debt markets at BBB;

13.26 VAA said that the Final Proposals were overly generous and would allow a level of dividends which was too high and that an injection of cash from shareholders would be beneficial. VAA also stated that the Final Proposals should not target a BBB+ rating.

Stress testing

13.27 Few stakeholders responded specifically to our assessment of stress testing results. HAL stated that financeability is not achieved if passenger numbers turn out to be lower than expected and implied that this meant the Final Proposals were not financeable.

CAA's views on stakeholders' comments

Calculating the price cap

13.28 We do not agree with HAL's suggestion that we erred in our calculation of the return on the RAB. We have used a similar calculation in previous price controls.[34] We also note that Ofgem has also adopted a comparable approach in some of its price controls.

13.29 Our approach to calculating the return on the RAB recognises the fact that returns accrue within a year and can be reinvested. We consider that it is important to allow for this cashflow timing and to ensure in our modelling that the return that is available to HAL by year end is equal to its estimated cost of capital.

13.30 We note that VAA has not presented new evidence in respect of which price profile would best further consumers' interests but has set out its preferred approach.

Assessment of financeability

Debt financeability

13.31 Having reviewed the evidence contained within the report prepared by Lazard for HAL we agree that a BBB credit rating could make it difficult to raise the amount of debt required. We made a similar observation in the Final Proposals in discussing the results of the stress test and noted that it would be reasonable to assume shareholder support in such a scenario.

13.32 We consider that HAL's argument that the notional company would have been downgraded during the pandemic is essentially a re-presentation of the argument that the actual company should be rated one notch higher than the notional company. We do not accept this argument on the grounds that the financial ring fence provisions in the licence provide similar creditor protection to those within HAL's financing documents. Moreover, the notional company is more conservatively funded, with a materially lower gearing.

Debt costs

13.33 We do not agree with HAL's argument that the debt costs we have modelled are inappropriate. The debt costs we have modelled are consistent with the inputs to

[34] We made an adjustment to the WACC for the accounting rate of return in our Q5 decision, see paragraphs 9.32-9.34 of the Q6 initial proposals. Note that this adjustment was made in a financial model which was "shared by HAL, the CC and the CAA". We also made a similar adjustment in Q6, see paragraphs 3.7-3.9 of the Q6 technical appendix on the WACC.

our calculation of the WACC and have been set by reference to market benchmarks.

The AK(t) factor

13.34 We acknowledge that we did not include the K factor in our financeability calculations. This is consistent with the approach we have taken at previous price control reviews. This is because the K factor is an NPV neutral timing difference and thus does not tend to impact overall impact financeability. Nonetheless, we recognise that as a result of the pandemic there have been larger differences between actual and allowed revenues which would typically be dealt with by the K factor. We have addressed this issue[35] and provided significant flexibility as to the treatment of this through the AK(t) term.

13.35 Given the size of the funds that will be affected by the AK(t) term[36] we have considered in this Final Decision (see paras 13.70 to 13.71 below) the practical impact of a reduction in cash flow associated with a recovery of the AK(t) term. We have done this in the exceptional circumstances of the recovery from the covid-19 pandemic and would not expect this sort of analysis to form part of the financeability assessment for a future price control reviews. Further discussion of is this term is set out in chapter 14 (Implementing through the Licence).

Equity financeability

13.36 We do not agree with HAL's argument that the price control is not investable for shareholders. HAL has not provided any compelling evidence on these matters and the approach we set out in the Final Proposals remains valid. Nonetheless, we have conducted further work on our equity financeability assessment for this Final Decision discussed below which supports the view that the price control is financeable from a shareholder perspective.

13.37 The Final Proposals explained why we focus on the notional company rather than the actual company. An undue focus on the actual company would create a situation in which we were explicitly signalling to HAL's management that consumers should bear the risks of management decisions on capital structure and dividend payments. There would be a danger that shareholders would capture the benefits of a highly leveraged structure but not bear the risks and this would not be in the interests of consumers.

13.38 While our focus is on the notional company, we have considered the representations that HAL has made on the actual company. Bearing in mind the advantages of the notional approach set out above, these are not sufficiently

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[35] See paragraph 14.17 of the Final Proposals

[36] The total amount to be returned to consumers via the AK(t) term is £166 million.

compelling to suggest that we should take a different approach to assessing HAL's financeability.

Stress testing

13.39 We do not agree with HAL's suggestion that passenger numbers being lower than expected will result in the price control being unfinanceable. The stress test analysis we presented in the Final Proposals showed that, on the basis of our projections of credit metrics, a 10 per cent reduction in passenger numbers, a one notch rating downgrade to BBB would seem unlikely.

13.40 Larger reductions in passengers could make the financeability position more difficult and we also noted that credit rating agencies could take a different view of the underlying business risk. In the circumstances of a multi-notch downgrade HAL might require an additional shareholder support, but we also noted that HAL would benefit from the TRS mechanism which offers much more protection to shareholders than was available under the Q6 arrangements.

Further work carried out by the CAA

Calculating the price cap

13.41 As explained in the Summary we have updated our calculation of the price cap from that set out in Final Proposals in line with:

- our updated passenger projections;[37]
- consequential impacts of the change in passenger numbers on opex and commercial revenues;[38]
- the latest available inflation forecasts from the OBR;[39]
- our updated estimate of the allowed cost of capital[40], stemming from our updates to inflation forecasts and an inconsistency identified in our analysis; and
- three specific errors in our analysis of costs and revenues.[41]

[37] See chapter 1 (Passenger forecasts).

[38] See chapter 4 (Operating expenditure) and chapter 5 (Commercial revenues).

[39] See chapter 12 (Financial framework).

[40] See chapter 9 (Weighted average cost of capital).

[41] See chapter 5 (Commercial revenues) for further details. Bus and coach revenues were double counted: correcting this error increases charges by approximately 2 pence per passenger. Rail revenues were overstated: correcting this error increases charges by approximately 4 pence per passenger. The service quality bonus for 2021 was double counted: correcting this error reduces charges by less than 1 penny per passenger.

13.42 Having updated our calculation of the price cap for these issues the build-up of the charge from building blocks is as shown in Table 13.3 and the unprofiled profile of charges is as shown in Table 13.4 below:

Table 13.3: Build-up of the charge from building blocks

£ million 2020, CPI real	2022	2023	2024	2025	2026	Total
Operating costs	1,166	1,168	1,207	1,233	1,221	5,995
Regulatory depreciation	841	879	918	970	1,022	4,629
Allowance for asymmetric risk	-	8	19	25	25	78
Allowed return (incl. tax)	616	620	653	659	658	3,208
Gross revenue requirement	2,623	2,675	2,798	2,888	2,926	13,909
Commercial revenues (incl. ORCs)	(906)	(982)	(1,061)	(1,098)	(1,111)	(5,159)
Cargo revenues	(35)	(20)	(14)	(12)	(11)	(92)
Net revenue requirements	1,682	1,672	1,723	1,778	1,803	8,658
Passengers (million)	61.6	73.0	78.9	80.7	81.3	375.5
Unprofiled yield per pax (£)	27.31	22.90	21.84	22.04	22.18	23.06

Source: CAA

Table 13.4: Unprofiled profile of charges

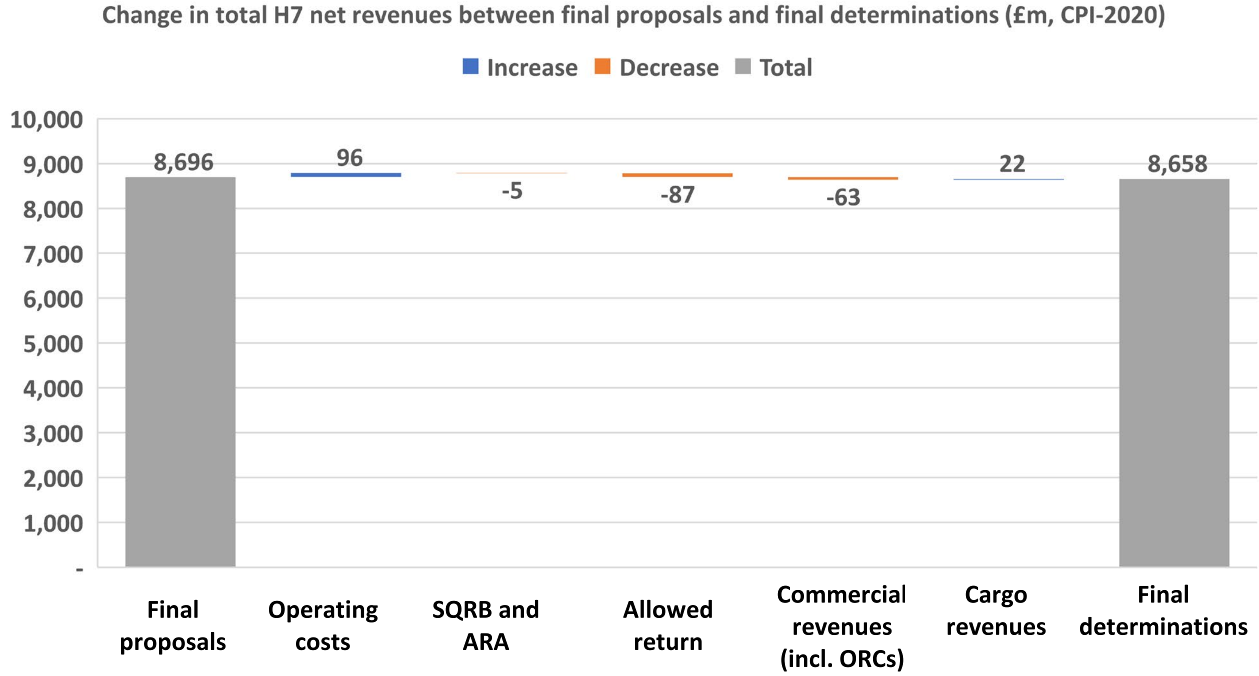
Unprofiled charges, £ million	Price base	2022	2023	2024	2025	2026
Final proposals	Nominal	34.41	29.09	26.57	25.80	26.57
Final Decision	Nominal	30.58	27.53	26.41	26.46	26.66
Change	Nominal	(3.83)	(1.56)	(0.16)	0.66	0.10
Final proposals	CPI-2020[42]	31.22	25.37	22.82	21.75	21.96
Final Decisions	CPI-2020	27.31	22.90	21.84	22.04	22.18
Change	CPI-2020	(3.91)	(2.46)	(0.99)	0.30	0.22

Source: CAA

13.43 Figure 13.1 below provides a visual representation of the change in net revenue requirement.

[42] These figures were deflated to CPI-2020 terms using the same inflation data as was used in Final proposals to provide transparency over how the prices have moved. This does mean that the change shown in the table above reflects both the impact of the change in prices as well as the change in the inflation data used to deflate them.

Figure 13.1: Bridge between Final proposals and Final Decisions for net revenue requirement



Source: CAA

13.44 Figure 13.1 above shows that the net revenue requirement has reduced by only 0.4% in CPI-real terms since Final proposals. Meanwhile there has been a marked changed in the weighted average yields per pax from £24.14 to £23.06[43]. This 4.5% reduction in yield is driven largely by the 4.3% increase in forecast passenger volumes.[44]

13.45 HAL's price cap for 2023 was set in January 2023 by means of a holding cap[45]. The maximum revenue per passenger specified in the holding cap decision is £31.57 rather than the £31.32 shown above. The figure of £31.32 reflects the underlying revenue requirement for 2023 excluding the impact of capital triggers and the payment of the 2021 service quality bonus.[46]

13.46 We are not changing the 2023 price cap as part of this Final Decision as making an adjustment midway through the charging year would not be in the interests of consumers. The difference between the holding cap and the underlying revenue requirement for 2022 and 2023 will be adjusted in an NPV-neutral way through our calculation of the price cap for 2024 to 2026.

[43] See tables 13.1 and tables 13.3, prices are expressed in CPI-2020 prices.

[44] Further information about our latest passenger forecasts is provided in chapter 1.

[45] See CAP2515

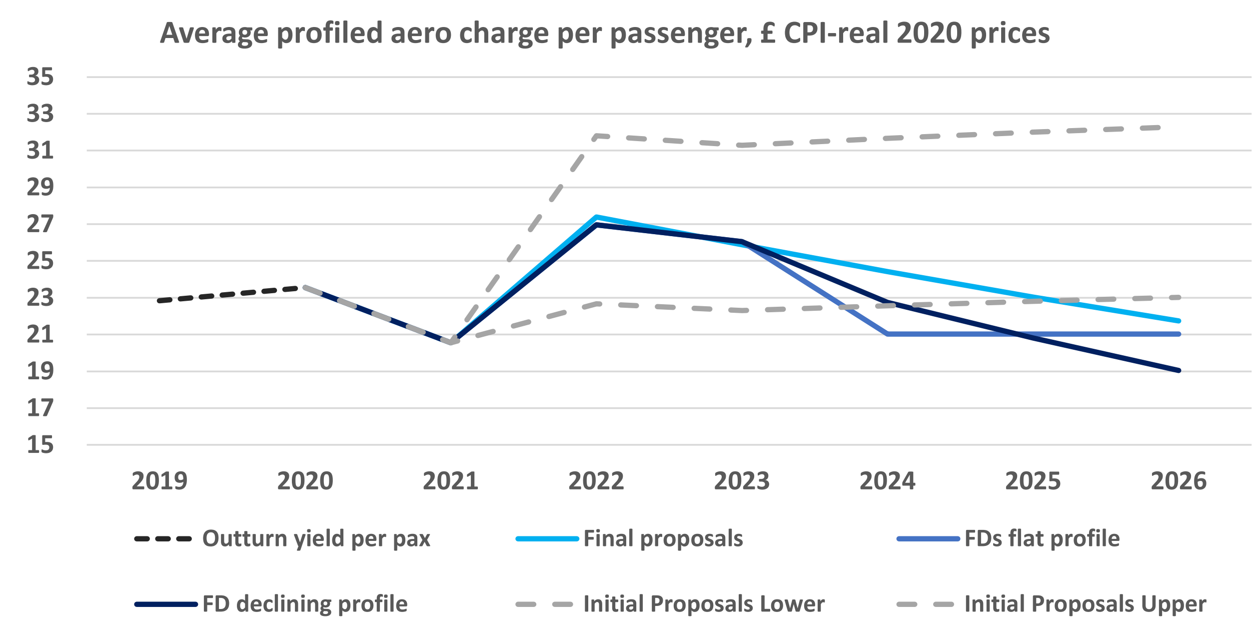
[46] See CAP2515 and in particular Appendix C

13.47 In the Final Proposals we proposed to set a declining price cap in real terms over the period of the H7 price control. Our assessment of financeability in Final Proposals showed that this profile would not cause financeability concerns. As part of our financeability assessment for this final decision we looked at two possible profiles:

- a declining profile, as used in the Final Proposals; and
- a flat profile for the period 2024-26.

13.48 These profiles are shown in the Figures below.

Figure 13.2: Declining and flat price cap profiles



Source: CAA

13.49 In the Final Proposals we looked at four credit metrics as part of our assessment of financeability:

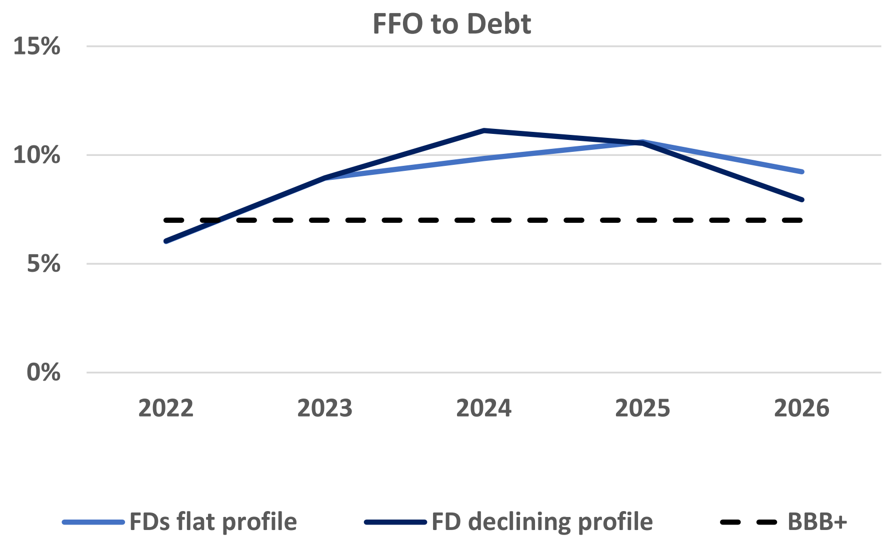
- Funds from operation to net debt (“FFO to net debt”);
- Net debt to EBITDA[47];
- Post maintenance interest cover ratio (“PMICR”); and
- Net debt to RAB.

13.50 We have since learned that Fitch no longer use PMICR for assessing airport credit ratings. As a consequence, we no longer include it in our assessment of

[47] EBITDA is earnings before interest tax, depreciation and amortisation

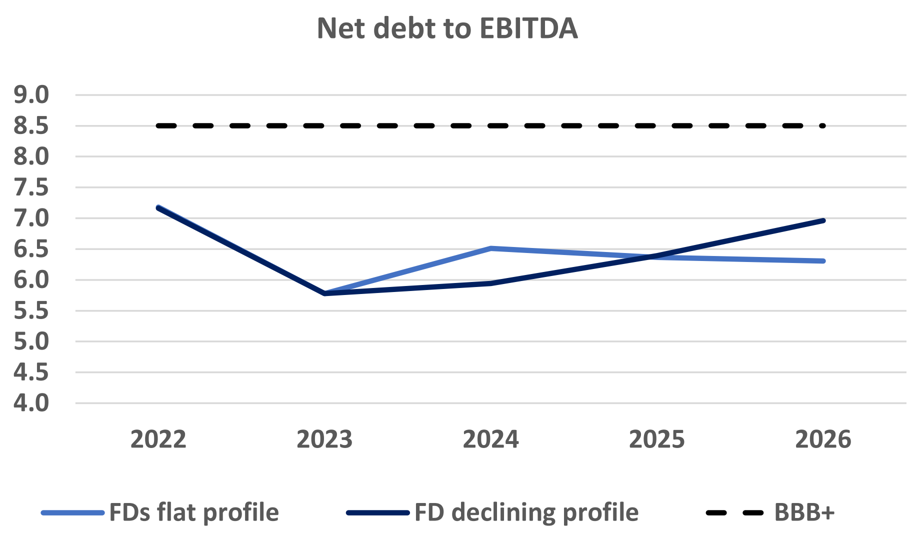
financeability.[48] The credit metrics resulting from both the flat and declining price cap profiles are shown in figures 13.3-13.5 below.

Figure 13.3: FFO to net debt for flat and declining profiles



Source: CAA

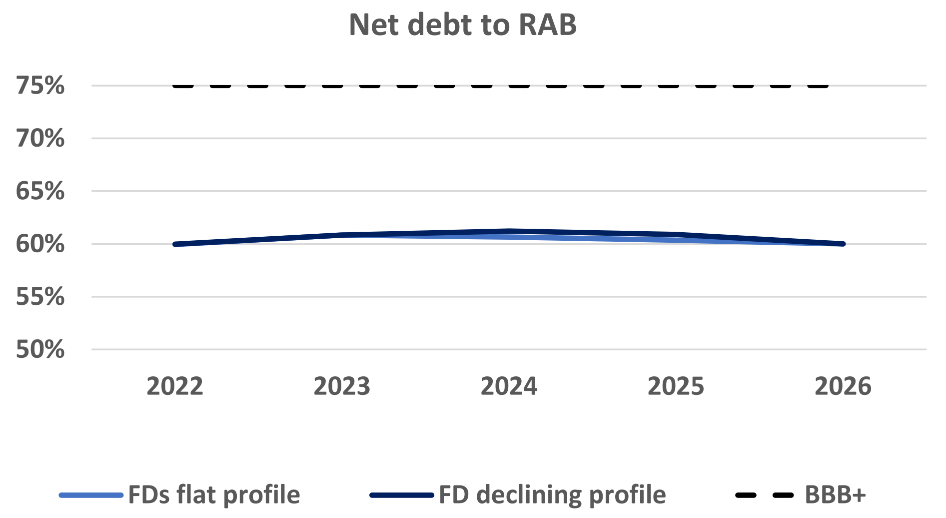
Figure 13.4: Net debt to EBITDA for flat and declining profiles



Source: CAA

48 PMICR was never used by S&P.

Figure 13.5: Net debt to RAB for flat and declining profiles



Source: CAA

13.51 We observe from Figures 13.3 and 13.4 that in the case of a declining profile of charges FFO to net debt and net debt to EBITDA both show deteriorating profiles in the final years of H7 in the case of a declining profile. Meanwhile these metrics are more resilient in the case of a flat profile of charges. Net debt to RAB is largely unaffected by the choice of profile.

13.52 Even with a declining price cap profile all metrics remain above the threshold for a BBB+ credit rating.[49] Nonetheless, in the case of the declining profile the trends are less favourable, and this may create risks to financeability without a corresponding benefit for consumers, since the two profiles are equivalent in net present value terms. So, we have concluded that a flat profile of charges from 2024 to 2026 would better promote consumers' interests and financeability.

Further assessment of financeability

13.53 In the Final Proposals we noted that we would keep information on passenger forecasts under review and would update the passenger forecast if appropriate. We also said that in doing so we would "seek to ensure that the position on financeability […][50] and, in particular, the position on key credit metrics is consistent with the analysis supporting these Final Proposals".

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[49] We expanded in the Final Proposals on how the thresholds we use are indicative of what is required for a particular credit rating but should not be seen as determinative.

[50] We have omitted the words "as set out in chapter 13 (Calculating the price cap and financeability)" from this

13.54 As with the Final Proposals, we have assessed the credit metrics of the notional company against the threshold required for a BBB+ credit rating which we consider would allow the notional company to access a sufficient volume of debt finance at a reasonable cost.

13.55 We conclude from this analysis that this Final Decision allows the notional company to maintain credit metrics consistent with a BBB+ credit rating. We also note that the average FFO to net debt ratio in 2022-24 is 8.2% which remains above the 7.0% threshold for downgrade that S&P have referred to as a key threshold in respect of HAL's class A debt.

13.56 On this basis, we consider that the notional company should be capable of obtaining and maintaining a BBB+ rating.

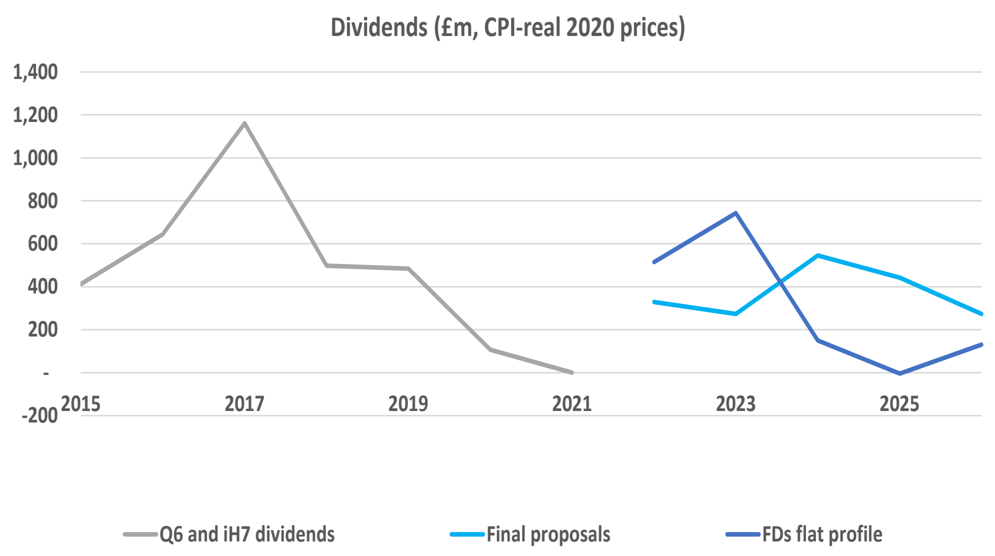
13.57 We conducted analysis (summarised it in the Final Proposals) which demonstrated that there is sufficient liquidity in debt capital markets for issuers rated BBB+. The report prepared by Lazard on behalf of HAL supports this view although it also highlights the risk that there would not be sufficient liquidity for an issuer rated BBB. Given that our credit metrics are consistent with a BBB+ credit rating we are of the view that this final decision will permit the notional company to access the debt that it needs, when it needs it, at a reasonable cost.

13.58 In addition to the assessment of financeability from a debt perspective we have also looked at financeability from an equity perspective. This is consistent with the approach we adopted in the Final Proposals including calculating the dividends payable by the notional company and the associated IRR. The results of this analysis are shown in Figure 13.6 and Table 13.5 below.

Figure 13.6: historical actual[51] and projected notional dividends

quote as they were included in error in the Final Proposals. The literal meaning of the statement in Final Proposals was that we would ensure the financeability assessment in Final Proposals was consistent with itself. The quote included above reflects our original intent.

51 Historical actual dividends are in respect of Heathrow (SP) Limited as this is the real-world entity that appears to resemble the notional company most closely. Specifically, because it is the lowest point within the group at which the debt financing activities of Heathrow Funding Limited and the licenced activities of HAL are consolidated.



Source: CAA analysis, HAL

13.59 The profile of dividends shown for the Final Decision in Figure 13.6 differs significantly from the profile shown for the Final Proposals. This change in profile is driven by:

- the updated inflation figures, which inflate the RAB by a larger amount in the early years of the price control but by smaller amount in the later years; and
- the flat profile of charges which means cash flow is more constrained in 2024.

Table 13.5: internal rate of return

All figures nominal	Final decision	Final proposals
Internal rate of return	11.9%	12.2%
Allowed cost of equity (post-tax)	12.2%	12.4%

Source: CAA

13.60 Table 13.5 shows that the IRR for the H7 period remains broadly in line with the allowed cost of equity.

13.61 We explained in the Final Proposals that the assumptions we make about how the notional company manages liquidity will influence the IRR. This remains the case and in part explains the difference between the two metrics. We also note that the cost of equity shown above is calculated using a simple arithmetic average of inflation forecasts for the H7 period whereas the IRR implicitly reflects a weighting of year-by-year inflation forecasts, weighted by the RAB. Using a weighted average inflation produces an allowed cost of equity of 11.9% which provides a good degree of confidence that the differences noted above are within the bounds of what can be explained by the differences in the methods of calculation.

13.62 The total dividends shown in figure 13.6 amount to £1.5 billion over the five years of H7 (in CPI-real 2020 prices). This is equivalent to an average nominal dividend yield of 4.1%, which we consider represents a healthy cash return to shareholders. For reference, the average yield of FTSE100 companies over the period 2015-2021 was 3.88%.

13.63 Moreover, dividend profile represents merely one form of shareholder return. The IRR demonstrates that, taking account of capital growth, overall returns available to shareholders in the notional company are consistent with the allowed cost of equity.[52]

13.64 The above evidence indicates that the allowances in this Final Decision are financeable for shareholders in the notional company. We note that the dividends the notional company is projected to generate should provide a buffer for debt financeability in a downside scenario, as well as supporting equity financeability in the base case.[53] The introduction of the TRS also supports financeability. If passenger volumes were to be materially below our forecasts, then shareholders stand to benefit from an increase in the RAB.[54]

13.65 Overall, we conclude that this Final Decision for the H7 price control is financeable given our base case assumptions.

Stress testing

13.66 While the price control set out in this Final Decision is not significantly more stringent than it was in the Final Proposals, it remains prudent and appropriate to consider the impact of reasonable downsides. As in the Final Proposals we have examined the impact of a 10 per cent reduction in passenger volumes on the notional company. We consider that a reduction in passenger volumes is an appropriate downside scenario to consider as it could naturally result from factors beyond the control of HAL's management.

13.67 For our stress testing, we have focussed on the impact on credit metrics. We noted in the Final Proposals that there was significant regulatory precedent for assuming that in a downside scenario shareholders would be required to support

[52] As described in chapter 9 (Weighted average cost of capital), we have carefully considered the appropriate allowance for the cost of equity and have employed a robust, evidence-based approach to calculating.

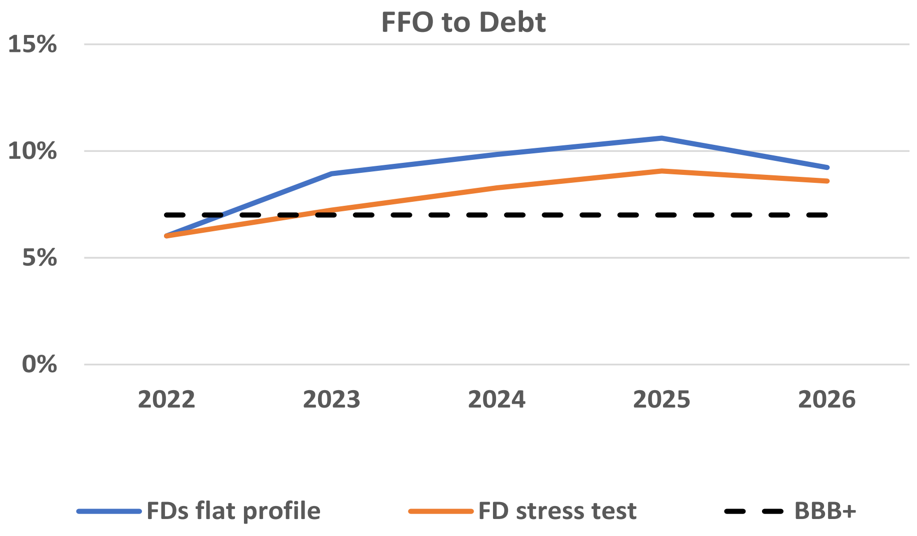
[53] We do not consider that it would be appropriate to ensure there are attractive equity returns in a downside as to do so would be inconsistent with the risk profile that informs the cost of capital assessment. It would also dilute incentives for management to behave in an efficient and prudent way and would impose unnecessary cost on consumers. Ensuring attractive equity returns in a downside scenario would therefore be at odds with our statutory duties.

[54] See chapter 2 for more detail on the operation of the TRS.

the notional company, either through forgoing dividends, or the injection of new capital, or both.

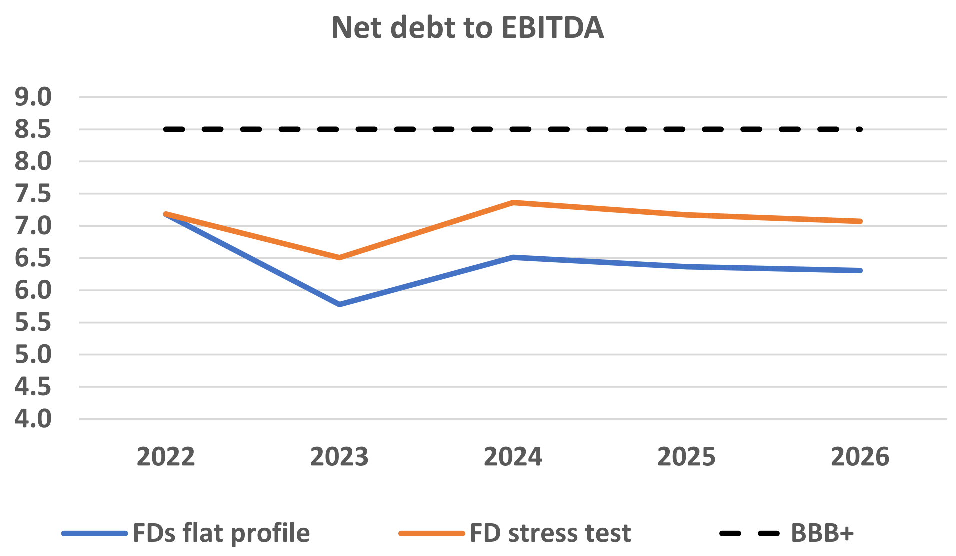
13.68 In our stress tests we have assumed that outturn opex and commercial revenues adjust to take account of the lower passenger volumes. Figures 13.7 to 13.9 show the results of our stress test analysis of credit metrics.

Figure 13.7: stress test funds from operation to net debt



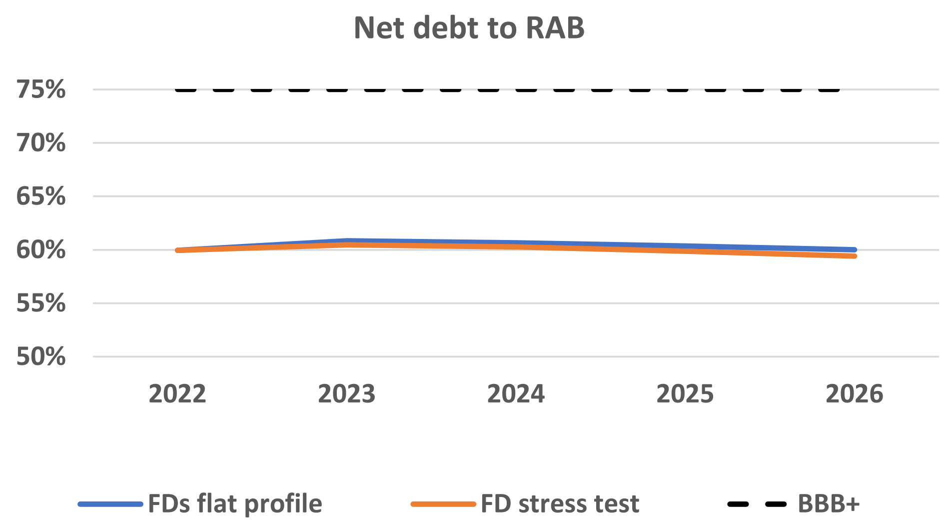
Source: CAA

Figure 13.8: stress test net debt to EBITDA



Source: CAA

Figure 13.9: stress test net debt to RAB



Source: CAA

13.69 Figures 13.7 and 13.8 show that, in the stress test case, there would be a reduction in headroom on the FFO to net debt and net debt to EBITDA metrics respectively. Figure 13.9 shows that the stress test has minimal impact on net debt to RAB.

13.70 While there is less headroom for both FFO to net debt and net debt to EBITDA in both cases the metrics remain consistent with maintaining a BBB+ credit rating. As we noted in the Final Proposals there is always the possibility that a rating agency may choose to downgrade the actual company, and that it would be prudent to consider the implications of such a downgrade for the notional company. Further, as we explained in the Final Proposals, we consider that, in such a circumstance, it would be reasonable (and also consistent with regulatory precedent) to assume that shareholders would support the notional company.[55]

13.71 We have also looked at how the stress test scenario compares with the impact of the AK(t) term. We observe that the AK(t) term provides for returning £164 million[56] to consumers through lower charges. HAL may decide to defer the return of the correction factor revenues to later in the period. For comparison, the stress test we have modelled assumes a reduction in revenues in 2026 of £181 million and that, in the stress test, the total reduction in revenue over H7 would

[55] While we assess financeability, including the stress test, for the notional company we are also aware that the ultimate beneficial owners in the actual company have not invested any additional capital into HAL in response to the covid-19 pandemic. This is relevant to the extent that, if they had invested substantially in response to the covid-19 pandemic, it might be less reasonable to assume further cash support in response to any stress difficulties.

[56] CPI-2020 prices

be £798 million. The AK(t) term is therefore significantly smaller in magnitude than the impact of the passenger reduction modelled in the stress test.

13.72 We concluded above that the notional company would still be financeable in a scenario with a 10 per cent reduction in passenger volumes. Given that this stress test examines a larger reduction in revenues that the AK(t) correction factor adjust we conclude that the AK(t) term is not a cause for undue concern from a financeability perspective.

The CAA's Final Decision

13.73 Our final decision is to have a flat price cap profile for 2024-26, combined with the 2022 and 2023 previously specified holding caps.[57] Table 13.6 summarises the resulting price cap.

Table 13.6: Price cap for the H7 price control in 2020 real and nominal prices

£/pax	2022	2023	2024	2025	2026
Allowed aeronautical charges (CPI 2020)	26.96	26.06	21.03	21.03	21.03
Allowed aeronautical charges (Nominal)	30.19	31.32	25.43	25.24	25.28

Source: CAA

13.74 The lower levels of real charges should benefit consumers and as discussed above this price cap profile of charges also supports financeability. This should allow the airport to continue to fund new investment and is also consistent with our secondary duty to have regard to HAL's financeability.

Implementation and next steps

13.75 The calculations of the price control summarised in this chapter form the basis of the licence modification that sets out the new H7 price control as part of our Final Decision and set out in Appendix C (Notice of the CAA's decision to modify HAL's licence).

[57] See CAP2305 for our decision on the holding cap for 2022 and CAP2515 for our decision on the holding cap for 2023.

Chapter 14
Licence implementation

Introduction

14.1 In order to put the new price control into effect we need to modify the terms of the Licence. We set out our approach to these licence modifications in Appendix C of the Final Proposals.

14.2 This chapter:

- summarises the approach to these matters set out in the Final Proposals;
- discusses the comments made by stakeholders on the draft modifications to the Licence set out at Appendix C of the Final Proposals; and
- provides our response to these comments and indicates where else comments on the drafting of specific conditions can be found in this Final Decision.

14.3 The modifications that we have decided to make to the Licence are set out in Appendix C (Notice of the CAA's decision to modify HAL's licence) to this Final Decision.

The Final Proposals

14.4 The main elements of the licence drafting set out in Appendx C to the Final Proposals were:

- Condition C1 (Price Control): a new price cap, with adjustment terms to reflect our policy proposals for the H7 period, elements of our proposals for the TRS mechanism and capex incentives (to the extent that these are necessary to complement our policy statements on these matters), a new adjustment term to allow for uncertainty over the terminal drop-off charges, a new mechanism enabling HAL to request a capex adjustment for capex in addition to that included in the H7 "capex envelope" and removal of the expansion planning costs pass through term as it is no longer relevant and an adjustment term to address over recovery of revenues against the allowed yield during the iH7 period;
- Condition C2 (Charges for other services): providing for a review of these charges, clarifying when and how the CAA can require changes to the cost allocation mechanism, removing some items from the list of Specified Facilities and allowing further changes if HAL, airlines and the CAA all agree, along with other clarifications;

- Condition D1 (Service quality standards, rebates, bonuses and publication): changes to reflect our move to OBR and mechanism for making changes to the OBR arrangements in Schedule 1;
- Condition E2 (Financial Resilience): changes to clarify and enhance the existing arrangements;
- Condition F (Consultation conditions): changes to clarify and strengthen the governance and consultation arrangements for capex, ORCs and service quality and expanding the consultation arrangements to cover certain changes to the terminal drop off charge; and
- Schedule 1[58]: replacement of the existing Schedule 1 with a new schedule to implement the OBR arrangements.

14.5 We also proposed a number of changes to defined terms and consequential amendments.

Summary of stakeholders' views

14.6 Stakeholders' comments on particular elements of the licence drafting are dealt with in:

- chapter 12 (Financial framework): the use of CPI (relevant to condition C1);
- chapter 3 (Outcome based regulation): the adjustment for service quality regulation outcomes based regulation in Condition C1, Condition D1 and schedule 1;
- chapter 7 (Capex incentives): the adjustment to take account fo the capex adjustment mechanism in Condition C1 and the CAA's position in relation to capex triggers;
- chapter 5 (Commercial revenues): the adjustment for the terminal drop-off charge factor in Condition C1;
- chapter 2 (Regulatory framework): traffic risk mechanism in Condition C1; and
- Appendix F (Financial resilience and ring fencing): comments on Condition E2.

14.7 This chapter deals with other comments by HAL on the detail of the drafting we set out in Appendix C of the Final Proposals. In general other respondents did not comment on matters relating to the detail of licence drafting, although VAA commented on issues relating to Condition F.

58 Previously known as Schedule 1 Statement of Standards, Rebates and Bonuses

The definition of "Regulatory Year" and retrospective oblgations

14.8 HAL was concerned that some of the licence drafting implied that the obligations were retrospective and could lead to HAL breaching a licence condition which was not in force at the relevant time, for example as a result of the proposed changes to the definition of the term "Regulatory Year". It was also concerned that obligations that applied by reference to dates set out the licence should not be introduced in a manner that did not allow HAL sufficient time to enable it to comply with them.

Use of reasonable endeavours

14.9 HAL also challenged the use of "reasonable endeavours" to set the standard which HAL must meet in complying with Condition D2.14.

"Deadband" for allowed security costs

14.10 HAL said that the "deadband figure" for allowable security costs for which HAL is responsible in Condition C1.7 should not be increased and suggested that the £21 million remained an appropriate figure.

Expansion cost pass through

14.11 HAL reiterated comments made previously that a term allowing it to pass through runway expansion related costs each year was still needed.

Over recovery of revenues in 2020 and 2021

14.12 HAL argued that the AK parameter that would adjust HAL's revenues in respect of over recovery against the allowed yield in 2020 and 2021 should be removed. It considered there to be no justification for a measure that would retrospectively recover 'over recovery of revenue from airport charges' when it considered that, whatever the resulting average yield, no such over-recovery of revenue took place in 2020 and 2021, the years worst affected by the pandemic. It said that it significantly under-recovered its target revenue in both 2020 and 2021 and that for the CAA to ignore this exceptional context, and instead insist on enforcing a mathematical adjustment to a meaningless yield, would be irrational and wrong in law on well established public law grounds.

14.13 It argued that introducing this measure would also be a breach of the CAA's financing duty and would undermine investors' faith that regulatory decisions will be made on logical, evidence-based grounds.

14.14 HAL noted that the 2022 holding cap and the Initial Proposals did not include the AK correction factor for 2020 and 2021 and that, if the reason for not including the AK correction factor in previous consultations was an oversight, HAL should not be penalised for it. HAL said that, by making a significant change only at Final Proposals, this proposal did not benefit from the greater scrutiny that could have been afforded to this change had it been presented earlier in the process. HAL said that this meant we had failed in our public law duty to consult adequately.

14.15 HAL also said that if the CAA were to retain this approach then the over-recovery of 2020 and 2021 revenue should not be inflated by the cost of capital and, even if the cost of capital were to be used as an inflator, it should be on the basis of the post-tax cost of capital. HAL said that past practice inflated small accidental over recoveries using an appropriate Treasury Bill discount rate and that the CAA's approach would undermine regulatory certainty.

Governance provisions in Condition F

14.16 HAL criticised the drafting of Condition F on grounds including:

- lack of clarity, suggesting that the words “and, where relevant, agree” created confusion and the risk of disputes over the interpretation of the condition in Condition F1.1 (a);
- some elements were unduly onerous, with HAL suggesting that the scope of Condition F1.1(b) be narrowed so that HAL is not required to consult relevant parties on all proposed changes and that the scope of this obligation should be more limited; and
- that it unduly widened the ambit of the CAA’s role, exceeding the CAA’s powers and that the power for the CAA to make directions under Condition F1.1(a) and to resolve disputes under Condition F1.8 should be removed as it lacked a statutory basis and did not benefit from appropriate oversight.

14.17 HAL also argued that the approach adopted in Condition F1.4 and F1.5 that would require HAL to comply with revised requirements as a result of consultation by the CAA on guidance, rather than a licence change would lead to significantly less scrutiny than if such changes were made through a licence change. As such, it considered the changes *ultra vires*. HAL was also concerned that the relevant guidance would not be available at the time that this Final Decision is published.

14.18 By contrast, VAA supported the proposed changes to the governance arrangements, in particular, the proposals for HAL to develop, consult and agree governance and consultation arrangements for ORCs, establish clear rules, processes and information requirements to allow the scrutiny of charges that are subject to Condition C2, provide a report on the proposed revisions, and provide a suite of governance documentation to cover the proposed requirements.

14.19 VAA also supported clarity over the CAA's role in relation to disputes, and a greater degree of CAA involvement in that regard.

Our views and the CAA's Final Decisions

14.20 Our views on the matters highlighted in paragraph 14.6 are dealt with in other chapters of this Final Decision as referenced in that paragraph. Other matters are dealt with below.

The definition of "Regulatory Year" and retrospective oblgations

14.21 We do not consider that any of the obligations set out in the Notice at Appendix C to the Final Proposals would create retrospective obligations, nor can such modifications, when implemented, have any impact on whether HAL was compliant with the Licence at any time in the past. We take the firm view that HAL's obligations (and its compliance with them) are those which apply to HAL under the Licence at the relevant time.

14.22 However, to remove any residual concerns, we have added a small clarification to Condition C2.5 to make clear that the obligation in that condition only applies in respect of those elements of the Specified Facilities which formed part of the Specified Facilities in the preceding Regulatory Year. We are also aware that there is a potential the changes to Condition E2 (Financial Resilience) lead to a lack of clarity over what certification obligations HAL is required to comply with in 2023. In order to avoid this, we have decided to delay the date from which those obligations come into force until 1 May 2023, so it is clear that HAL is required to comply with:

- Condition E2 in its current form in respect of the certificate to be provided to the CAA by the end of April 2023; and
- Condition E2 in its amended for thereafter.

14.23 We will write to HAL separately to specify the form of the ultimate controller undertaking that we require it to procure under Condition E2 to take account of the changes that we have made to this obligation. .

Use of reasonable endeavours

14.24 We have considered in detail HAL's critique of the use of a standard based on "reasonable endeavours" for the obligation in Condition D2.14 to ensure that airlines and groundhandlers comply with the rules of conduct. We consider that "reasonable endeavours" clauses benefit from a very significant body of case law as HAL notes. We consider that the use of a standard that benefits from such extensive judicial underpinning ensures that the standard required is well understood while remaining flexible enough to adapt to the circumstances at hand.

14.25 As such, we consider the use of reasonable endeavours to set a standard for the obligation in Condition D2.14 is both clear and appropriate and provides greater legal certainty than a standard based on "reasonable steps". In response to

HAL's comments, we can clarify that, while the question of what is "reasonable" depends upon the likelihood of achieving the desired result, we do not consider that this is likely to require HAL to unduly sacrifice its own commercial interests to meet the obligation.

"Deadband" for allowed security costs

14.26 We do not agree that £21 million remains an appropriate figure for the deadband of allowable security costs for which HAL is responsible. The increase proposed in the Final Proposals to £21.12 million is an inflationary adjustment that is consistent with our previous regulatory practice and we have decided that this figure is appropriate for inclusion in the Licence at Condition C1.7.

Expansion cost pass through

14.27 As we stated in the Final Proposals, we do not consider that it is appropriate to reintroduce the expansion cost pass through term as expansion is now paused and HAL's early expansion costs dealt elsewhere in the calculation of the price control. As such, this term not required at this time.

Over recovery of revenues in 2020 and 2021

14.28 This mechanism (introduced through the AK_t term in Conditions C1.4 and C1.5 and defined in Conditions C1.22 and C1.23) is designed to true up HAL's revenues from 2020 and 2021 to align those revenues with what HAL should have recovered had HAL's revenues had been in line with the allowed yield under the price control in those years.

14.29 The price control for those years included a "k" adjustment term, but the adjustments (which would have fed into the calculation of the price caps for 2022 and 2023 respectively) were not made as a result of the use of the simplified interim price caps for those years. As such, the adjustments to reflect the price controls for those years remain outstanding.

14.30 In practice, even through HAL's passenger numbers fell very sharply in 2020 and recovered only slowly in 2021, HAL's actual revenues per passenger exceeded the allowed yield per passenger during that period. In 2020 HAL recovered around £91 million and in 2021 around £74 million more than it should have done as a result of the mismatch between its forecast passenger numbers and those that actually used the airport. As a result, HAL has recovered around £166 million more revenue than it should have done under the price control for those two years, notwithstanding the impact of the covid-19 pandemic. This is largely an effect of the increased proportion of HAL's revenues in those years that came from takeoff/landing and parking charges in those years when passenger numbers were very significantly reduced.

14.31 The AK_t term effects the adjustments needed to take account of the revenue entitlements and obligations HAL was subject to in regulatory Years 2020 and 2021, the most significant difference from the usual “k_t” term being that it allows for HAL to spread these adjustments over a number of Regulatory Years as discussed further below. If the the AKt term were not to be included in the price control, there would be no mechanism to address this issue. This term reflects normal regulatory practice and is consistent with the CAA’s approach to “truing up/down” over- or under recovery of the allowed yield as against the actual revenues collected by the airport used at least since the start of Q4.

14.32 This term is therefore necessary to protect consumers against windfall gains/losses arising from a divergence between the forecast and actual number of passengers at the airport and is not retrospective in that is secures that the revenues that HAL generated in those years aligns with the price control obligations it was subject to at that time.

14.33 We considered the case for a RAB covid-19 related RAB adjustment in 2020 and 2021 and explained our approach further in chapter 10 (The Regulatory Asset Base). In doing so we took into account HAL’s likely losses in 2020 and 2021 and decided that an adjustment of £300 million would be appropriate given our statutory duties to protect consumers and have regard to HAL’s financeability. In this context we do not consider that a further adjustment to reduce HAL’s previously established obligations to pay back the over recovery of revenue it has made would be appropriate or consistent with our statutory duties.

14.34 We have considered whether introducing this term would have an unduly negative impact on the notional company to finance its activities and consider that it will not have such an effect. In particular, we have conducted stress testing[59] on this Final Decision and confirmed that the adjustment under the AKt term has a materially smaller impact than the reduction in passenger numbers modelled in our stress test. Given that we are satisfied that the stress test scenario would be financeable we are also confident that the AKt term will be financeable.

14.35 The approach that we have taken to drafting the AKt term is also such that HAL has discretion over the proportion of the over recovery that it uses for the calculation of its charges in each Regulatory Year. This is so that HAL can bring forward, or push back the amount of this over recovery that is passes through into charges in an given year during H7. This provides HAL with a degree of extra flexibility to assist in managing financeability issues.

14.36 We have considered the suggestions made by HAL that we should not adjust the sum to be returned to airlines and consumers for the cost of capital or we should

[59] See chapter 13 (Calculating the price cap and finceability)

use a rate no higher than that on Treasury Bills. On balance we remain of the view that HAL has benefitted from this over recovery and adjusting by the cost of capital does no more than keep HAL neutral to the impacts of any over or under recovery. Bearing this in mind, we have retained the use of the pre-tax cost of capital in adjusting the level of over-recovery to be returned in future years.

14.37 As for HAL's objections to this term on the grounds of lack of consultation, we are clear that the statutory requirement for consultation is satisfied by the inclusion of this term in the licence drafting set out at Appendix C and chapter 14 of the Final Proposals. We have considered HAL's comments on this provision (as discussed above) and have now decided that this provision is in the interests of consumers for the reasons set out in the Final Proposals and above. As a result, we have decided to retain this provision in the price control formula at Condition C1.

Governance provisions in Condition F

14.38 HAL's criticism of the drafting of Condition F1.1 is that the use of the words "and, where relevant, agree" would introduce inefficiency into HAL's process, added nothing of practical value and made the drafting confusing and unclear. We are of the view that HAL's comments proceed on a misreading of the condition. The use of the words "and where relevant, agree" refer back to the first line of that clause, and are useful to distinguish those elements of the list of matters covered by the condition in Condition F1.1 (a) (i) to (iv) that could be the subject of agreement (such as capital projects) and those which do not require agreement (such as charges under Condition C2).

14.39 As such, we consider the words in question perform a useful function in ensuring that the drafting of the condition does not inadvertently impose an obligation on HAL to agree matters that are not properly the subject of agreement under the Licence.

14.40 We also note HAL's objection to the obligation to consult on "any" changes to the matters set out in F1.1 (b). While it might have been possible to qualify this obligation such that it only applied to, for example, "material changes", we consider that such an approach would be likely to bring confusion and a lack of clarity of what would constitute compliance with the condition, undermining the certainty of the obligation. We are of the view that changes to the items listed in Condition F1.1 (b) are likely to be relatively infrequent and, therefore, that the obligation is appropriate and clear. As a result, we have decided not to change the drafting for this Final Decision.

14.41 We also note HAL's objection to the inclusion of the Terminal Drop-Off Charge in Condition F1.1 (b) (iv) and the scope of the obligation in Condition F1.1 (b) (v). However, we have decided to retain the wording we consulted on in Final Proposals as the retention of the Terminal Drop-Off Charge within this condition is needed to support our decisions on that charge set out in chapter 5 (Commercial revenues) and the “catch-all” provision is needed to ensure that HAL is required to consult appropriately on all relevant aspects of the service it provides.

14.42 We note HAL’s proposal that the date for compliance with Condition F1.3 should be “mobile” to take account of the overall H7 price control process. However, given the date of this final decision, retaining the approach set out in the drafting set out in Appendix C to the Final Proposals provides for a more generous dealine (the end of 2023) than would be provided by HAL’s proposed drafting (five months after the licence modifications come into effect). As a result, we have decided to implement the drafting from the Final Proposals.

14.43 We also note that HAL queried the use of a reference to handbooks or other arrangements that “have been agreed” and the risk it perceives that this could create two categories of arrangement. The wording that we have chosen is deliberate and reflects the fact that some of the items will have been agreed, and some will not: this is a natural consequence of the obligations in Condition F1.1(a) applying slightly differently to different elements, as follows:

- elements that have been agreed (as a result of HAL’s reasonable endeavours under Condition F1.1) will be subject to the obligation on HAL in Condition F1.3 to comply with them; while
- elements that have either not been agreed (despite HAL’s reasonable endeavours under Condition F1.1), and elements that do not require agreement (such as charges) will not be subject to the obligation on HAL in Condition F1.3 to comply with them.

14.44 Therefore, we have decided to reject HAL’s arguments and to implement this modification to the condition without change.

14.45 HAL queried the obligation in Condition F1.4 on the grounds that it had not seen the guidance referred to in it. The relevant guidance has been published in draft alongside this Final Decision and HAL (alongside other stakeholders) has the opportunity to comment on it before it is finalised. We have also updated the drafting of this condition in this Final Decision to make clear that the consultation we have published alongside this Final Decision is relevant to the application of Condition F1.5.

14.46 We have decided to reject HAL’s assertion that the approach taken in Conditions F1.4, F1.7 and F1.8 is *ultra vires* as we consider that section 21 CAA12 provides a clear statutory underpinning for these provisions. We consider that the specific amendments we have decided to make remain justified for the reasons set out in Appendix C to the Final Proposals: that they will add clarity and transparency to the existing provisions and make it clearer what is expected from HAL in terms of compliance.

Other changes made since the Final Proposals

14.47 There are a number of small changes to the drafting on which we consulted at part of the Final Proposals. These are addressed in the individual chapters referred to above and in the notice set out in Appendix C (Notice of the CAA's decision to modify HAL's licence) to this Final Decision.

14.48 These include changes to take account of the fact that we have now set an interim price cap for 2023 and, therefore, the price cap for 2023 set out in Condition C1 reflects that interim price cap. As such, Condition C1.1 will not be modified and the modifications to Condition C1 will implement the H7 price control for subsequent years. We do not consider that any of the changes we have made to the drafting since the Final Proposals render the modifications we have now decided to make such that they "differ significantly" from those set out in Appendix C to the Final Proposals.

14.49 We have also made small changes, where needed, to eliminate typographical errors.

Implementation

14.50 The modfications we have decided to make are set out in the Notice at Appendix C (Notice of the CAA's decision to modify HAL's licence) to this Final Decision.

14.51 The modifications to the Licence set out in the Notice at Appendix C (Notice of the CAA's decision to modify HAL's licence) to this Final Decision are shown in redline/strikeout against the Licence in the form it is in after the modifications to put into effect the interim holding price cap for 2023 have come into effect (six weeks after publication of the notice implementing that interim price cap on 1 February 2023). These modifications implement the price control formulae from 2024 as we have decided not to change the price cap for 2023 in the interests of consumers.

14.52 These modifications will come into effect on 1 May 2023.